

AMERICAN

ORNITHOLOGY

ILLUSTRATED



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1878
Birds

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AMERICAN ORNITHOLOGY;

OR, THE

NATURAL HISTORY

OF THE

BIRDS OF THE UNITED STATES.

ILLUSTRATED WITH PLATES

ENGRAVED FROM DRAWINGS FROM NATURE.

BY

ALEXANDER WILSON

AND

CHARLES LUCIAN BONAPARTE.

POPULAR EDITION.

VOL. I.



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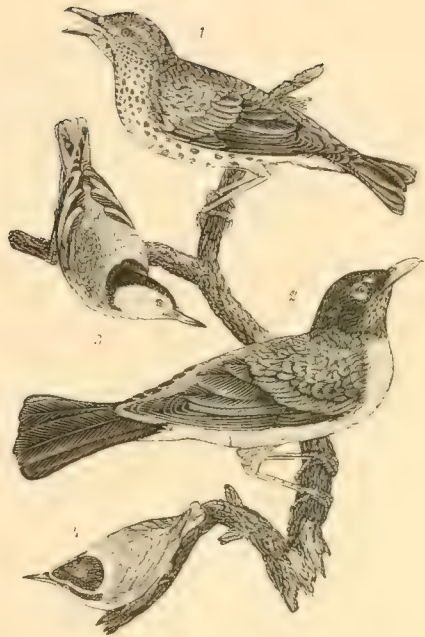


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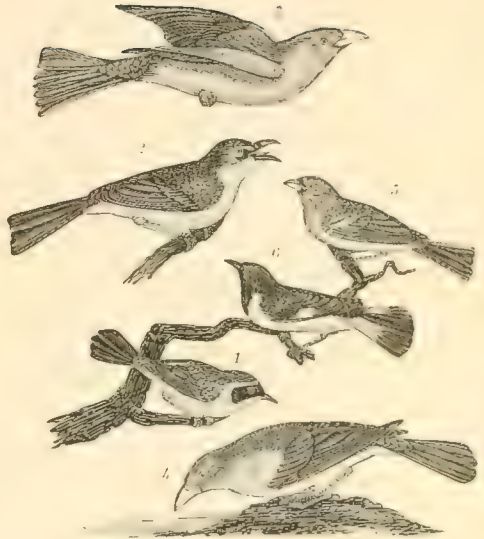


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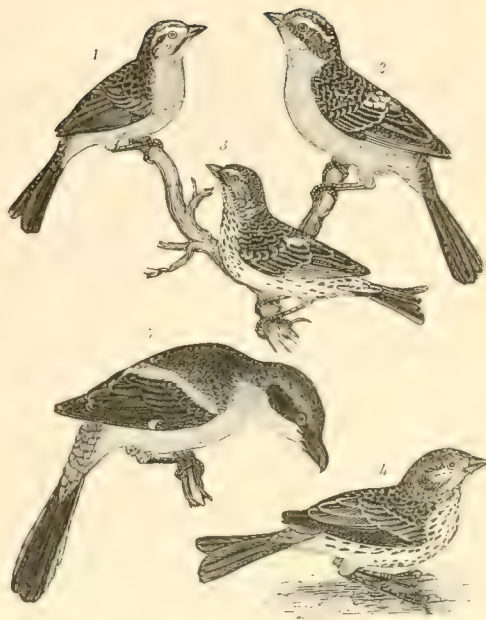


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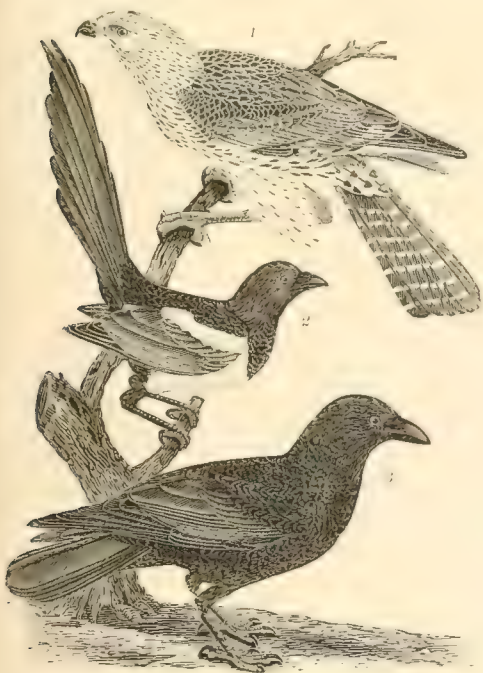


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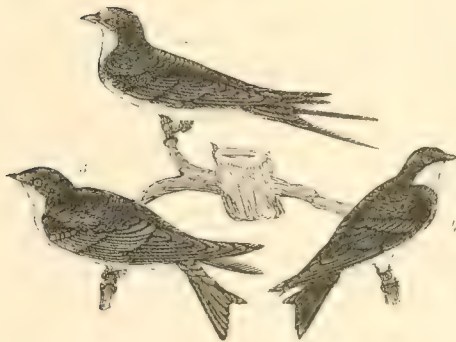


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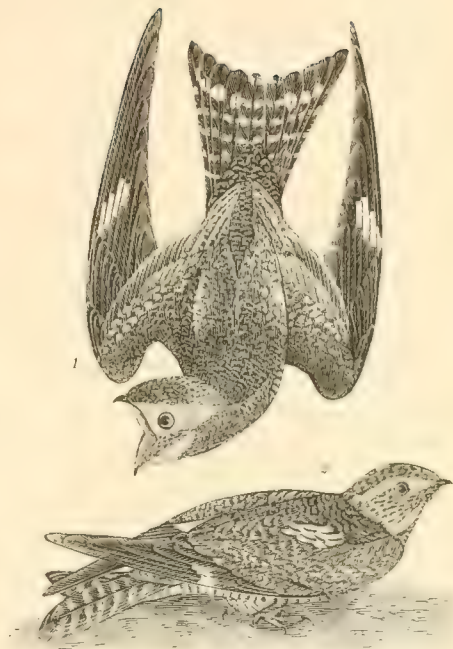


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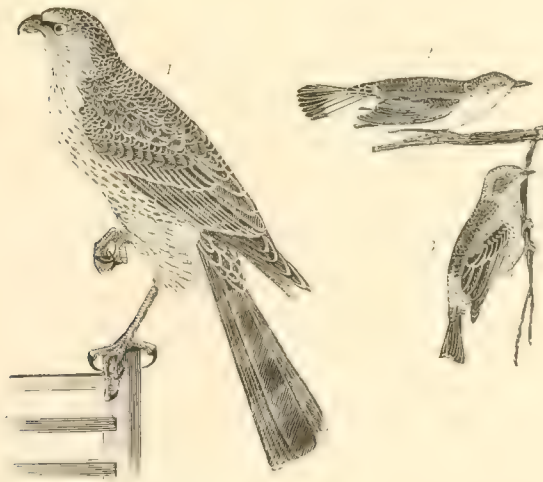


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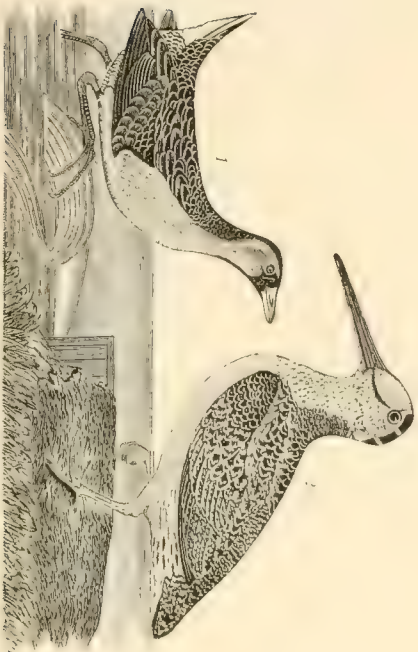


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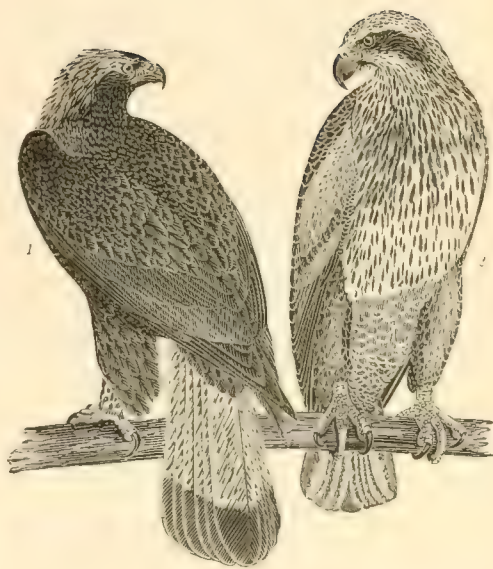


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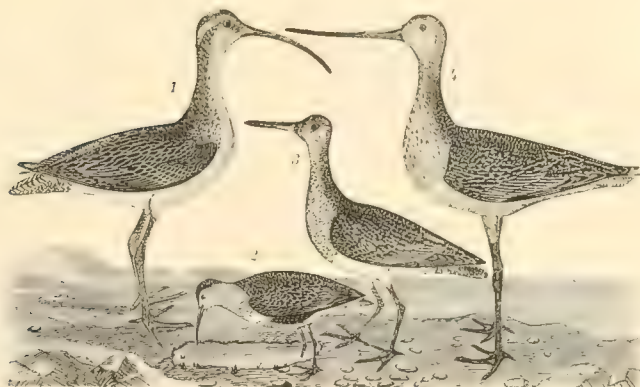


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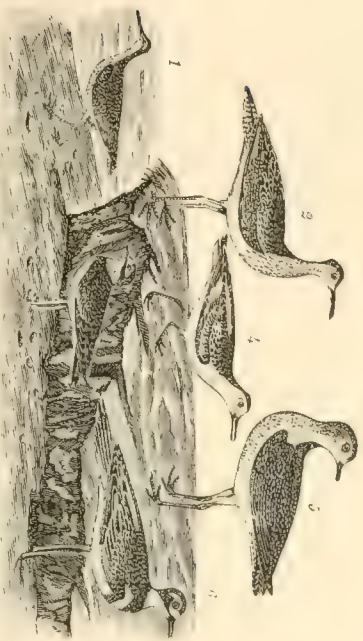


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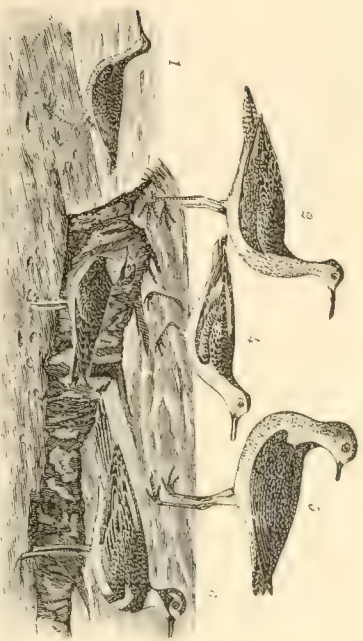


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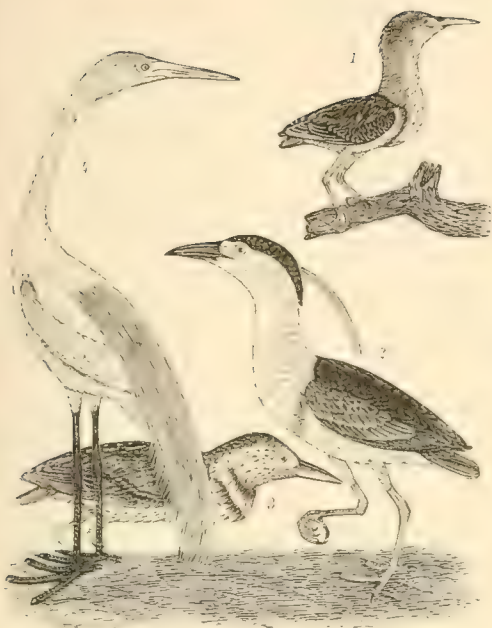


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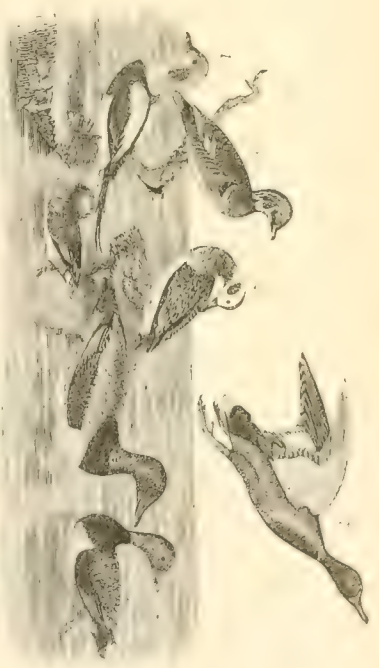


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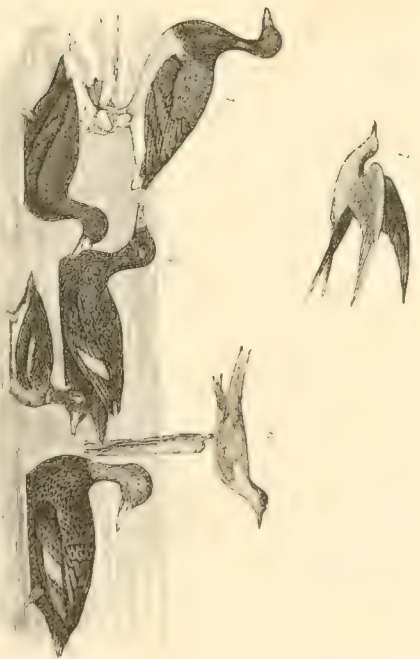


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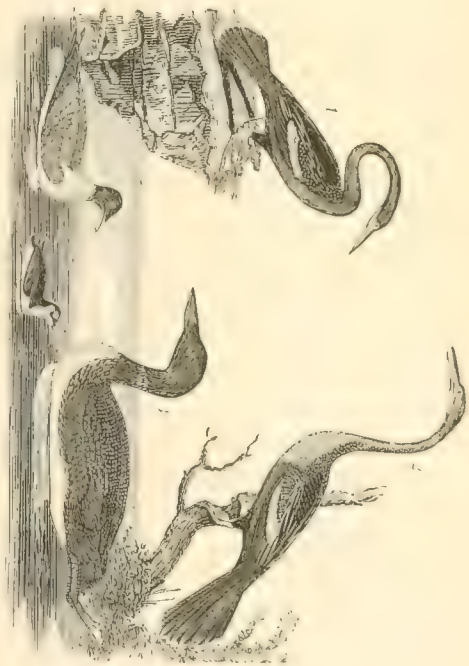


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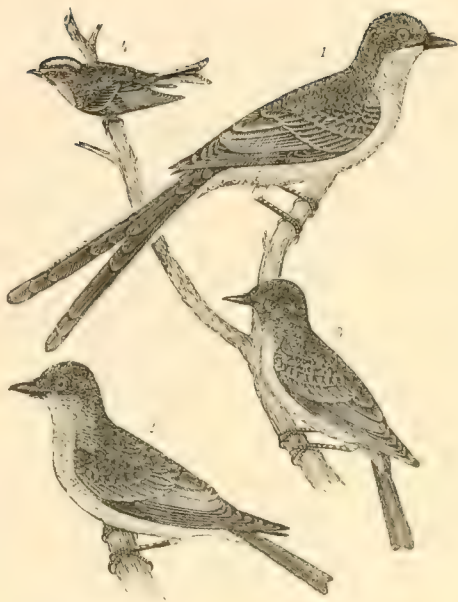


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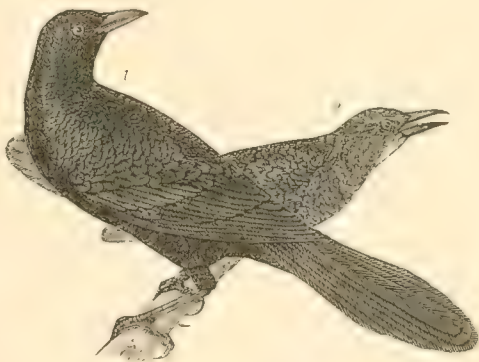


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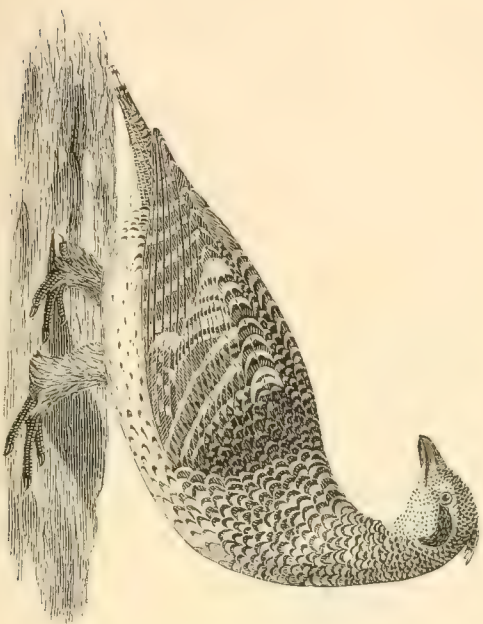


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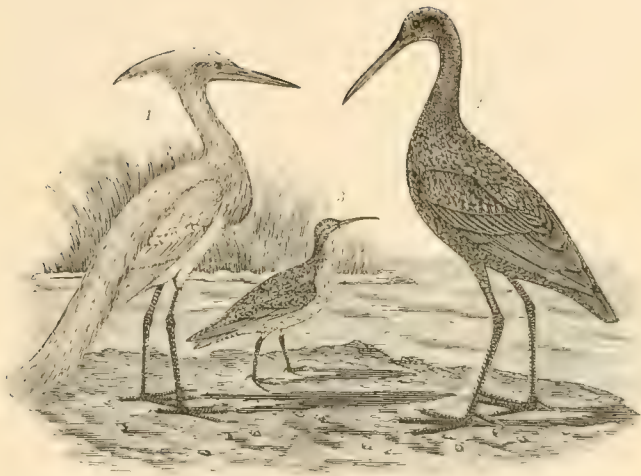


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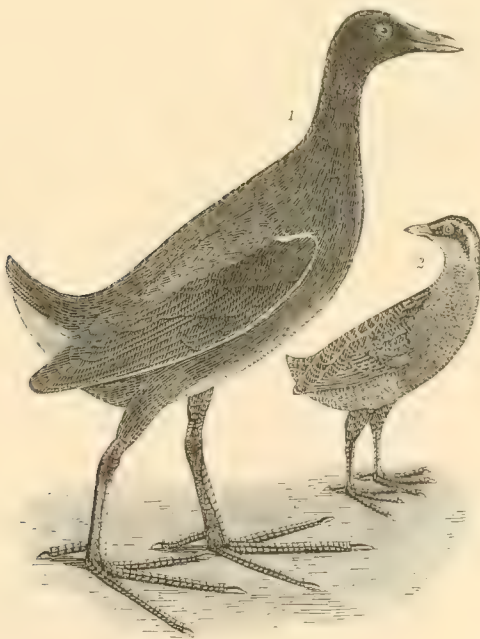


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P R E F A C E
TO
THE LIFE OF WILSON.

IN the preface to the first edition of this biographical sketch, the motives of the publication are stated, and the peculiar circumstances under which its author was placed, in respect to materials, are detailed; there is, therefore, no need of repeating them.

It has been thought proper to augment the volume, by a selection from the series of interesting letters, which were put into the writer's hands by some of Wilson's personal friends, who were anxious that these memorials should not be lost. It may be, perhaps, objected, that some of them are of too trifling a nature for publication; but let it be observed that they all, more or less, tend to throw light upon the employments, and peculiarities of character, of an individual of no every day occurrence; one of those to whose genius we would render homage, and the memory of whom we delight to cherish.

For the particulars of Wilson's early life, the writer has been indebted to a narrative, in manuscript, which was communicated to him by Mr. William Duncan. This information, coming from a nephew of Wilson's, and his confidential friend for many years, must be deemed authentic; and we have to regret that the plan and limits of our publication, did not allow us to make a freer use of what was so kindly placed at our disposal.

To Mr. Duncan, Mr. Miller, and Mr. Lawson, the writer owes many obligations, for the promptitude with which they intrusted to him their letters; and his acknowledgments are equally due to Colonel Robert Carr, who furnished him with the letters to the late William Bartram. The friendship which subsisted between Wilson and the latter was of the most exalted kind; and the warm expressions of confidence and regard which characterize these letters, will afford a proof of how much of the

writer's happiness was derived from this amiable intercourse. The reader's obligations to Colonel Carr will not be lessened, when it is stated, that the greater part of these interesting epistles were mislaid during the latter days of the venerable botanist to whom they were addressed; and that it was through the care of the above-mentioned gentleman they were rescued from oblivion.

It will be long ere the lovers of science will cèase to deplore the event, which snatched from us one so eminently gifted for natural investigations, by his zeal, his industry, his activity, and his intelligence; one who, after a successful prosecution of his great undertaking through a series of eventful years, was deprived of his merited reward, at the moment when he was about putting the finishing hand to those labors, which have secured to him an imperishable renown. "The hand of death," says Pliny, "is ever, in my estimation, too severe, and too sudden, when it falls upon such as are employed in some immortal work. The sons of sensuality, who have no other views beyond the present hour, terminate with each day the whole purpose of their lives; but those who look forward to posterity, and endeavor to extend their memories to future generations by useful labors;—to such, death is always immature, as it still snatches them from amidst some unfinished design."

But although that Being, who so often frustrates human purposes, thought proper, in his wisdom, to terminate the "unfinished design" of our lamented friend, yet were his aspirations after an honorable distinction in society fully answered. The poor despised weaver of Paisley takes his rank among the writers of our country; and after ages shall look up to the Father of American Ornithology, and bless that Providence, which, by inscrutable ways, led him to the only spot, perhaps, of the civilized earth, where his extraordinary talents would be encouraged to develop themselves, and his estimable qualities of heart would be duly appreciated.

Wilson has proved to us what genius and industry can effect in despite of obstacles, which men of ordinary abilities would consider insurmountable. His example will not be disregarded; and his success will be productive of benefits, the extent of which cannot now be estimated.

SKETCH

OF

THE AUTHOR'S LIFE.

ALEXANDER WILSON was born in the town of Paisley, in the west of Scotland, on the sixth day of July, 1766. His father, who was also named Alexander, followed the distilling business; an humble occupation, which neither allowed him much time for the improvement of his mind, nor yielded him much more than the necessaries of life. He was illiterate and poor; and died on the 5th June, 1816, at the age of eighty-eight. His mother was a native of Jura, one of the Hebrides or Western Islands of Scotland. She is said to have been a woman of delicate health, but of good understanding, and passionately fond of Scotch music, a taste for which she early inculcated on her son, who, in his riper years, cultivated it as one of the principal amusements of his life. She died when Alexander was about ten years old, leaving him, and two sisters, to mourn their irreparable loss; a loss which her affectionate son never ceased to deplore, as it deprived him of his best friend; one who had fostered his infant mind, and who had looked forward, with fond expectation, to that day,

—“When, clad in sable gown, with solemn air,
“The walls of God’s own house should echo back his prayer:”

for it appears to have been her wish that he should be educated for the ministry.

At a school in Paisley, Wilson was taught the common rudiments of learning. But what proficiency he made, whether he was distinguished from his schoolmates or not, my memorials of his early life do not inform me. It appears that he was initiated in the elements of the Latin tongue; but having been removed from school at the age of twelve or thirteen, the amount of knowledge acquired could not have been great, and I have reason to believe that he never afterwards resumed the study. His early productions show that his English education had not only been greatly circumscribed, but very imperfect. He wrote, as all self-taught authors write, carelessly and incorrectly. His sen-

tences, constructed by the ear, often displease one by their gross violations of the rules of grammar, an essential part of learning to which he never seriously applied himself until, after his arrival in America, he found it necessary to qualify himself for an instructor of youth.

Wilson's father, feeling the want of a helper in the government of an infant family, again entered into the matrimonial state. The maiden name of this second wife was Brown.

It was the intention of the father that Alexander should be educated for a physician; but this design was not relished by the son, who had, through the impertinent interference of some persons, imbibed some prejudices against the profession, which were the cause of the project's being abandoned.

It being the wish of the step-mother that the boy should be put to a trade, he was accordingly apprenticed to his brother-in-law, William Duncan, who then resided in Paisley, to learn the art of weaving. That this determination was the result of good sense there can be no doubt; the employment had the tendency to fix a disposition somewhat impetuous and wavering; and the useful knowledge acquired thereby he was enabled, at a subsequent period of life, to turn to account, when mental exertion, even with superior resources, would have availed him but little.

The scheme of being taught a trade met with little or no opposition from the subject of this memoir; his father's house no longer affording him that pleasure which it had done during the life of her who had given him existence. Some difference had arisen between him and his step-mother, whether from undutiful conduct of his, or harsh treatment of hers, I know not; but it may be asserted with truth, that she continued an object of his aversion through life: which was manifest from the circumstance that, in the many letters which he wrote from America to his father, he seldom, if ever, mentioned her name. She is still living, and must, doubtless, feel not a little *rejoiced* that her predictions with respect to the "*lazy weaver*," as *Sandy* was termed at home, who, instead of minding his business, misspent his time in making verses, were never verified. But, in justice to her character, we must state that, if she was an unkind step-mother, she nevertheless proved herself to be a faithful and affectionate wife; and supported by her industry, her husband, when he became by age and infirmities, incapable of labor.

At an early period of his life Wilson evinced a strong desire for learning; and this was encouraged by a spirit of emulation which prevailed among his youthful acquaintance, who, like himself, happily devoted many of their vacant hours to literary pursuits. He had free access to a collection of magazines and essays, which, by some good luck, his father had become possessed of; and these, as he himself often asserted, "were the first books that gave him a fondness for reading and reflection." This remarkable instance of the beneficial tendency of periodical publications we record with pleasure; and it may be adduced as an argument in favor of affording patronage, in our young country, to a species of literature so well adapted to the leisure of a commercial people; and which, since the days of Addison, has had so powerful an influence on the taste and morals of the British nation.

Caledonia is fruitful of versemen: every village has its poets; and so preva-

lent is the habit of jingling rhymes, that a scholar is considered as possessing no taste, if he do not attune the Scottish lyre to those themes which the *amor patriæ*, the national pride of a Scotsman, has identified with his very existence.

That poetry would attract the regard of Wilson was to be expected; it was the vehicle of sentiments which were in unison with his sanguine temperament; he had early imbibed a love of virtue, and it now assumed a romantic cast by assimilation with the high-wrought efforts of fancy, combined with the melody of song.

After an apprenticeship of about five years, Wilson became his own master; and, relinquishing the occupation of weaving, he resolved to gratify his taste for rural scenery, by journeying into the interior of the country in the capacity of a peddler. He was now about eighteen, full of ardor and vivacity; had a constitution capable of great exertion; and a mind which promised resources amid every difficulty. Having been initiated in the art of trading, he shouldered his pack, and cheerfully set out in quest of riches. In a mind of a romantic turn, Scotland affords situations abundantly calculated to arouse all those associations which the sublime and beautiful in nature inspire. Wilson was an enthusiast; and the charms of those mountains, valleys, and streams, which had been immortalized in song, filled his soul with rapture, and incited some of the earliest efforts of his youthful muse.

To him who would accumulate wealth by trade, the Muses must not be propitious. That abstraction of mind from worldly concerns which letters require, but ill qualifies one to descend to those arts, which, in order to be successfully practised, must be the unceasing objects of solicitude and attention. While the trader was feasting his eyes upon the beauties of a landscape, or inditing an elegy or a song, the auspicious moment to drive a bargain was neglected, or some more fortunate rival was allowed to supplant him. From the habit of surveying the works of nature arose an indifference to the employment of trading, which became more disgusting at each interview with the Muses; and nothing but the dread of poverty induced him to conform to the vulgar avocations of common life.

Burns was now the favorite of the public; and from the unexampled success of this humble son of genius many aspired to the honors of the laurel, who otherwise would have confined their views of renown to the limited circle of their family or acquaintance. Among this number may be reckoned our Wilson; who, believing that he possessed the talent of poetical expression, ventured to exhibit his essays to his friends, whose approbation encouraged him to renewed perseverance, in the hope of emerging from that condition in society which his aspiring soul could not but disdain.

In consequence of his literary attainments and correct moral deportment, he was admitted to the society of several gentlemen of talents and respectability, who desisted in our youth the promise of eminence. Flattered by attentions, which are always grateful to the ingenuous mind, he was emboldened to the purpose of collecting and publishing his poetical attempts, hoping thereby to secure funds sufficient to enable him to persevere in the walks of learning, which, to his glowing fancy, appeared to be strewn with flowers.

In pursuance of this design he printed proposals; and being "resolved," to adopt his own language, "to make one bold push for the united interests of Pack and Poems," he once more set out to sell his merchandise, and obtain patronage to his work.

This expedition was unprofitable: he neither advanced his fortune nor received the encouragement of many subscriptions. Fortunate would it have been for him if, instead of giving vent to his spleen at the supposed want of discernment of rising merit, or lack of taste for the effusions of genius, he had permitted himself to be admonished of his imprudence by the indifference of the public, and had taken that for an act of friendship which his wounded feelings did not fail to construe into contempt.

But in defiance of discouragement he published his volume, under the title of "Poems, Humorous, Satirical and Serious." The writer of this sketch has it now before him; and finds in it the following remarks, in the handwriting of the author himself: "I published these poems when only twenty-two—an age more abundant in *sail* than *ballast*. Reader, let this soften the rigor of criticism a little." Dated, "Gray's Ferry, July 6th, 1804." These poems were, in truth, the productions of a boy, who composed them under the most disadvantageous circumstances. They answered the purpose for which they were originally intended—to gratify the partiality of friendship, and alleviate moments of solitude and despondency. Their author, in his riper years, lamented his rashness in giving them to the world; and it is to be hoped that no one will be so officious as to draw them from that obscurity to which he himself sincerely rejoiced to see them condemned. They went through two small editions in octavo, the last of which appeared in 1791. The author reaped no benefit from the publication.

Mortified at the ill success of his literary undertaking, and probably with the view of withdrawing himself from associates who, instead of advancing, rather tended to retard his studies, Wilson retired to the little village of Lochwinnoch, situated in a delightful valley, a few miles from Paisley. In this sequestered place he had before resided, and he now resorted to it under the pressure of disappointment, and soothed his mind with the employment of letters, and spent his vacant hours amid the romantic scenery of a country which was well calculated to captivate one who had devoted himself to the service of the muses.

While residing at Lochwinnoch he contributed some short prose essays to *The Bee*, a periodical work which was published at Edinburgh by Dr. Anderson. Of the merits of these essays I cannot speak, as I have never seen them. He also occasionally visited the latter place, to frequent the Pantheon, wherein a society for debate held their meetings. In this assembly of minor wits he delivered several poetical discourses, which obtained him considerable applause. The particulars of these literary peregrinations have been minutely related to me; but at this time I will merely state, that he always performed his journeys on foot, and that his ardor to obtain distinction drawing him away from his profession, the only means of procuring subsistence, he was frequently reduced to the want of the necessaries of life.

Wilson, in common with many, was desirous of becoming personally

acquainted with the poet Burns, who was now in the zenith of his glory; and an accidental circumstance brought them together. The interview appeared to be pleasing to both; and they parted with the intention of continuing their acquaintance by a correspondence. But this design, though happily begun, was frustrated by an imprudent act of the former, who, in a criticism on the tale of Tam O'Shanter, remarked of a certain passage that there was "too much of the *brute*" in it. The paragraph alluded to is that which begins thus:

"Now, Tam, O Tam! had thae been queans."

Burns, in reply, observed: "If ever you write again to so irritable a creature as a poet, I beg you will use a gentler epithet than to say there is 'too much of the *brute*' in anything he says or does." Here the correspondence closed.

From Lochwinnoch Wilson returned to Paisley, and again sought subsistence by mechanical labor. But at this period the result of the French Revolution had become evident by the wars enkindled on the continent; and their influence on the manufactures of Great Britain, particularly those of Paisley, began to be felt. Revolution principles had also crept in among the artisans, which, superadded to the decline of business, were the means of many being thrown out of stated employment; and the distress of others was not a little aggravated by exactions which, it was supposed, neither policy nor justice ought to have dictated. Hence arose a misunderstanding between the manufacturers and the weavers, which soon grew into a controversy, that awakened the zeal of both parties; and Wilson, incited by principle as well as interest, remained not idle on an occasion which seemed to demand the exercise of his talents for the benefit of the poor and the oppressed.

Among the manufacturers there was one of considerable wealth and influence, who had risen from a low origin by a concurrence of fortunate circumstances, and who had rendered himself greatly conspicuous by his avarice and knavery. This obnoxious individual was arraigned in a galling satire, written in the Scottish dialect, which is well known to be fertile of terms of sarcasm or reproach. The piece was published anonymously; and, being suited to the taste of the multitude, was read with eagerness. But the subject of it, stung to the quick by the severity of the censure, sought revenge of his concealed enemy, who, through some unforeseen occurrence, was revealed in the person of Wilson. A prosecution for a libel was the consequence of the disclosure; and our satirist was sentenced to a short imprisonment, and to burn, with his own hands, the poem at the public cross in the town of Paisley. Wilson underwent the sentence of the law surrounded by his friends, a gallant and numerous band, who viewed him as a martyr to the cause of honor and truth; and who, while his character was exalted in their opinion, failed not to stigmatize that of his adversary in all the bitterness of contempt. The printer, it is said, was fined for his share in the publication.

In the year 1792, Wilson wrote his characteristic tale of "Watty and Meg," the last poem which he composed in Scotland. It was published without a name; and, possessing considerable merit, was, by many, attributed to Burns. This ascription certainly showed a want of discrimination, as this production displays none of those felicities of diction, none of that peculiar intermixture

of pathos and humor, which are so conspicuous in the writings of Burns. It has obtained more popularity in Scotland than any of the minor essays of our author; and has been ranked with the best productions of the Scottish muse.

Cromek, in his sketch of Wilson's life, adverting to the prosecution above mentioned, says, that "the remembrance of this misfortune dwelt upon his mind, and rendered him dissatisfied with his country. Another cause of Wilson's dejection was the rising fame of Burns, and the indifference of the public to his own productions. He may be said to have envied the Ayrshire bard, and to this envy may be attributed his best production, 'Watty and Meg,' which he wrote at Edinburgh in 1793 (1792). He sent it to Nielson, printer, at Paisley, who had suffered by the publication of his former poems. As it was, by the advice of his friends, published anonymously, it was generally ascribed to Burns, and went rapidly through seven or eight editions. Wilson, however, shared no part of the profits, willing to compensate for the former losses his publisher had sustained." *

The sketch above mentioned the author of this narrative showed to Wilson, and the latter told him that the relation was wanting in correctness. He pointedly denied the charge of envying the Ayrshire bard, and felt not a little scandalized at the unworthy imputation. He added, that no one entertained a more exalted idea of Burns's genius, or rejoiced more at his merited success, than himself.

Wilson now began to be dissatisfied with his lot. He was poor, and had no prospect of bettering his condition in his native country. Having heard flattering accounts of America, he conceived the design of emigrating thither, and settling in the United States.

It was some time in the latter part of the year 1793 that the resolution was formed of forsaking the land of his forefathers. His eye having been accidentally directed to a newspaper advertisement, which stated that the American ship *Swift* would sail from the port of Belfast, in Ireland, on the first of May following, with passengers for Philadelphia, he communicated his scheme, in confidence, to his nephew, William Duncan, then a lad of sixteen, who consented to become his fellow-traveller in the voyage; and an agreement was entered into of departing in the above-mentioned ship.

The next subject of consideration was the procuring of funds; and as weaving presented the most eligible plan for this purpose, to the loom Wilson applied himself, for four months, with a diligence and economy almost surpassing belief; the whole of his expenses during this period amounting to less than one shilling per week.

All matters being finally arranged, he set out on foot for Port Patrick, whence he embarked for Ireland. On reaching Belfast it was found that the ship had her complement of passengers; but, rather than remain after so much exertion, Wilson and his companion consented to sleep upon deck, and, consequently, they were permitted to depart in the ship, which sailed about the middle of May, and arrived at Newcastle, in the state of Delaware, on the fourteenth of July, 1794.

* Cromek's "Select Scottish Songs," vol. 2, p. 214. London, 1810.

We now behold Alexander Wilson in a strange land, without an acquaintance on whose counsels and hospitality he could rely in that state of uncertainty to which, having no particular object in view, he was of course subjected; without a single letter of introduction, and with not a shilling in his pocket.* But every care was forgotten in his transport at finding himself in the land of freedom. He had often cast a wishful look towards the western hemisphere, and his warm fancy had suggested the idea that among that people, only, who maintained the doctrine of an equality of rights, could political justice be found. He had become indignant at beholding the influence of the wealthy converted into the means of oppression; and had imputed the wrongs and sufferings of the poor, not to the condition of society, but to the nature and constitution of the government. He was now free; and exulted in his release, as a bird rejoices which escapes from the confinement of the cage. Impatient to set his foot upon the soil of the New World, he landed at the town of Newcastle, and, shouldering his fowling-piece, he directed his steps towards Philadelphia, distant about thirty-three miles. The writer of this biography has a distinct recollection of a conversation with Wilson on this part of his history, wherein he described his sensations on viewing the first bird that presented itself as he entered the forests of Delaware; it was a red-headed woodpecker, which he shot, and considered the most beautiful bird he had ever beheld.

On his arrival at Philadelphia, he deliberated upon the most eligible mode of obtaining a livelihood, to which the state of his funds urged immediate attention. He made himself known to a countryman of his, Mr. John Aitken, a copper-plate printer, who, on being informed of his destitute situation, gave him employment at this business, at which he continued for a few weeks, but abandoned it for his trade of weaving; having made an engagement with Mr. Joshua Sullivan, who resided on the Pennypack creek, about ten miles north of Philadelphia.

The confinement of the loom did not agree either with Wilson's habits or inclinations; and learning that there was considerable encouragement afforded to settlers in Virginia, he immigrated thither, and took up his residence near Shepherd's Town, in that part of the state known by the name of New Virginia.† Here he again found himself necessitated to engage in the same

* This is literally true. The money which bore his expenses from Newcastle to Philadelphia was borrowed of a fellow passenger. The same generous friend, whose name was Oliver, made him subsequently a loan of cash to enable him to travel into Virginia.

† The habits of the people with whom Wilson was compelled to associate, in this section of the state, it should seem gave him no satisfaction; and the life he led added not a little to the chagrin which he suffered on finding himself an alien to those social pleasures which, hitherto, had tended to sweeten his existence. His letters at this period would, no doubt, afford some curious particulars, illustrative of his varied life; but none of them have fallen into my hands. The following extract from some of his manuscript verses, will lead to the conclusion that he did not quit Virginia with regret:

“Farewell to Virginia, to Berkley adieu,
Where, like Jacob, our days have been evil and few!
So few—they seemed really but one lengthened curse;
And so bad—that the Devil only could have sent worse.”

sedentary occupation; and soon becoming disgusted with the place, he returned to the mansion of his friend, Mr. Sullivan.

I find from one of his journals that, in the autumn of the year 1795, he travelled through the north part of the state of New Jersey, with an acquaintance, in the capacity of a pedler, and met with tolerable success.

His diary of this journey is interesting. It was written with so much care, that one is tempted to conjecture that he spent more time in literary occupation than in vending his merchandise. It contains observations on the manners of the people, and remarks on the principal natural productions of New Jersey, with sketches of the most noted indigenous quadrupeds and birds. In these sketches one is enabled to perceive the dawning of that talent for description which was afterwards revealed with so much lustre.

On his return from this trading adventure, he opened a school on the Oxford road, about five miles to the north of Frankford, Pennsylvania; but being dissatisfied with this situation, he removed to Milestown, and taught in the school-house of that village. In this latter place he continued for several years, and, being deficient in the various branches of learning necessary to qualify him for an instructor of youth, he applied himself to study with great diligence; and acquired all his knowledge of the mathematics, which was considerable, solely by his own exertions. To teaching he superadded the vocation of surveying, and was occasionally employed by the neighboring farmers in this business.

Whilst residing at Milestown, he made a journey, on foot, to the Genesee country, in the state of New York, for the purpose of visiting his nephew, Mr. William Duncan, who resided upon a small farm, which was their joint property. This farm they had been enabled to purchase through the assistance of Mr. Sullivan, the gentleman in whose employ Wilson had been, as before stated. The object of this purchase, which some might deem an act of imprudence in those whose slender funds did not suffice without the aid of a loan, was to procure an asylum for Mr. Duncan's mother and her family of small children, whom poverty and misfortune had, a short time before, driven to this country. This was somewhat a fatiguing journey to a pedestrian, who, in the space of twenty-eight days, travelled nearly eight hundred miles.

The life of Wilson now becomes interesting, as we are enabled, by a selection from his letters, to present him to the reader as his own biographer.

TO MR. WILLIAM DUNCAN.*

MILESTOWN, July 1, 1800.

"DEAR BILL

"I had the pleasure of yours by the hands of Mr. P. this day, and about four weeks ago I had another, directed to Mr. Dobson's care, both of which were as welcome to me as anything, but your own self, could be. I am just as you left me, only my school has been thinner this season than formerly.

* Mr. Duncan at this time resided upon the farm mentioned above, which was situated in the township of Ovid, Cayuga county, New York.

"I have had four letters from home, all of which I have answered. Their news are—Dull trade—provisions most exorbitantly high—R.'s sister dead—the Seedhills mill burnt to the ground—and some other things of less consequence.

* * * * *

"I doubt much if stills could be got up in time to do anything at the distilling business this winter. Perhaps it might be a safer way to take them up, in the spring, by the Susquehanna. But if you are determined, and think that we should engage in the business, I shall be able to send them up either way. P. tells me that his two stills cost about forty pounds. I want to hear more decisively from you before I determine. Sooner than live in a country exposed to the ague, I would remain where I am.

"O. comes out to stay with me two months, to learn surveying, algebra, &c. I have been employed in several places about this summer to survey, and have acquitted myself with credit and to my own satisfaction. I should not be afraid to engage in any job with the instruments I have. * *

"S. continues to increase in bulk, money and respectability; a continual current of *elevenpenny bits* pouring in, and but few running out. * *

"We are very anxious to hear how you got up; and well pleased that you played the Horse Jockey so luckily. If you are fixed in the design of distilling, you will write me, by the first opportunity, before winter sets in, so that I may arrange matters in time.

"I have got the schoolhouse enlarged, by contributions among the neighbors. In summer the school is, in reality, not much; but in winter I shall be able to teach with both pleasure and profit.

* * * * *

"When I told R. of his sister's death, 'I expected so,' said Jamie, 'any other news that's curious?' So completely does long absence blunt the strongest feelings of affection and friendship. May it never be so with you and me, if we should never meet again. On my part it is impossible, except God, in his wrath, should deprive me of my present soul, and animate me with some other."

Wilson next changed his residence for one in the village of Bloomfield, New Jersey, where he again opened a school. But being advised of a more agreeable and lucrative situation, he solicited, and received, an engagement from the trustees of Union School, situated in the township of Kingsess or Kingessing, a short distance from Gray's Ferry, on the river Schuylkill, and about four miles from Philadelphia.

This removal constituted an important era in the life of Wilson. His school-house and residence being but a short distance from Bartram's Botanic Garden, situated on the western bank of the Schuylkill,—a sequestered spot, possessing attractions of no ordinary kind,—an acquaintance was soon contracted with that venerable naturalist, Mr. William Bartram,* which grew into

* The author of "Travels through North and South Carolina, Georgia, East and West Florida," &c. This excellent gentleman closed his long and useful life on the 22d July, 1823, in the eighty-fourth year of his age.

an uncommon friendship, and continued without the least abatement until severed by death. Here it was that Wilson found himself translated, if we may so speak, into a new existence. He had long been a lover of the works of Nature, and had derived more happiness from the contemplation of her simple beauties than from any other source of gratification. But he had hitherto been a mere novice; he was now about to receive instructions from one whom the experience of a long life, spent in travel and rural retirement, had rendered qualified to teach. Mr. Bartram soon perceived the bent of his friend's mind, and its congeniality to his own; and took every pains to encourage him in a study which, while it expands the faculties, and purifies the heart, insensibly leads to the contemplation of the glorious Author of Nature himself. From his youth Wilson had been an observer of the manners of birds; and, since his arrival in America, he had found them objects of uncommon interest; but he had not yet viewed them with the eye of a naturalist.

Mr. Bartram possessed some works on natural history, particularly those of Catesby and Edwards. Wilson perused them attentively; and found himself enabled, even with *his* slender stock of information, to detect errors and absurdities into which these authors had fallen from a defective mode of studying Nature: a mode which, while it led them to the repositories of dried skins and preparations and to a reliance on hearsay evidence, subjected them to the imputation of ignorance, which their lives, devoted to the cultivation and promotion of science, certainly would not justify. Wilson's improvement was now rapid; and the judicious criticisms which he made on the above-mentioned authors gratified his friend and instructor, who redoubled his encouraging assistance, in order to further him in a pursuit for which his genius, now beginning to develop itself, was evidently fitted.

"TO MR. WILLIAM DUNCAN.

"GRAY'S FERRY, October 30th, 1802.

"DEAR BILLY.

"I was favored with your despatches a few hours ago, through the kindness of Colonel Sullivan, who called on me for that purpose. I have read and re-read, over and over again, their contents; and shall devote the remainder of this evening to reply to you, and the rest of the family, now joint tenants of the woods. By the arrival of John F. here, in August last, I received one letter from my brother David, one from Thomas W. and one for Alexander from David Wilson; and last week another packet arrived from Belfast, containing one letter from your father to myself; and to your mother, brother and brother-in-law, and yourself, one each, all of which I have herewith sent, and hope they may amuse a leisure hour. F. has been wofully disappointed in the expectations he had formed of his uncle. Instead of being able to assist him, he found him in the depth of poverty; and fast sinking under a severe fever; probably the arrival of a relation contributed to his recovery; he is now able to crawl about. F. has had one child born and buried since his arrival. He weaves with Robertson, but neither likes the situation nor employment. He is a stout, active and ingenious fellow, can turn his hand to almost anything, and wishes as eagerly to get up to the lakes as ever a saint

longed to get to heaven. He gives a most dismal description of the situation of the poor people of Scotland in 1800.

"Your letters, so long expected, have at length relieved me from much anxiety. I am very sorry that your accommodations are so few, for my sister's sake, and the children's; a fireplace and comfortable house for the winter must, if possible, be got up without delay. If masons are not to be had, I would attempt to raise a temporary one myself, I mean a fireplace—but surely they may be had, and lime and stones are also attainable by dint of industry. These observations are made not from any doubts of your doing everything in your power to make your mother as comfortable as possible, and as your means will enable you, but from a solicitude for a sister's health, who has sustained more distress than usual. I know the rude appearance of the country, and the want of many usual conveniences, will for some time affect her spirits; let it be your pleasure and study to banish these melancholy moments from her as much as possible. Whatever inconveniences they may for a while experience, it was well they left this devoted city. The fever, that yellow genius of destruction, has sent many poor mortals to their long homes since you departed; and the gentleman who officiates as steward to the hospital informed me yesterday evening that it rages worse this week than at any former period this season, though the physicians have ceased reporting. Every kind of business has been at a stand these three months, but the business of death.

"You intimate your design of coming down next spring. Alexander seems to have the same intention. How this will be done, consistent with providing for the family, is not so clear to me. Let me give my counsel on the subject. You will see by your father's letters that he cannot be expected before next July or August perhaps, a time when you must of necessity be at home. Your coming down, considering loss of time and expenses, and calculating what you might do on the farm, or at the loom, or at other jobs, would not clear you more than twenty dollars difference, unless you intended to remain here five or six months, in which time much might be done by you and Alexander on the place. I am sorry he has been so soon discouraged with farming. Were my strength but equal to my spirit, I would abandon my school for ever for such an employment. Habit will reconcile him to all difficulties. It is more healthy, more independent and agreeable than to be cooped up in a subterraneous dungeon, surrounded by gloomy damps, and breathing an unwholesome air from morning to night, shut out from Nature's fairest scenes and the pure air of heaven. When necessity demands such a seclusion, it is noble to obey; but when we are left to choice, who would bury themselves alive? It is only in winter that I would recommend the loom to both of you. In the month of March next I shall, if well, be able to command two hundred dollars cash *once more*. Nothing stands between me and this but health, and that I hope will continue at least till then. You may then direct as to the disposal of this money—I shall freely and cheerfully yield the whole to your management. Another quarter will enable me to settle John M.'s account, about the time it will be due; and, instead of wandering in search of employment five or six hundred miles for a few dollars, I would beg of you both to unite in putting the place and house in as good order as possible. But Alexander can

get nothing but wheat and butter for this *hagging* and *slashing*! Never mind, my dear namesake, put up awhile with the rough fare and rough clothing of the country. Let us only get the place in good order, and you shall be no loser by it. Next summer I will assuredly come up along with your father and George, if he comes as I expect he will, and everything shall flourish.

“My dear friend and nephew, I wish you could find a leisure hour in the evening to give the children, particularly Mary, some instruction in reading, and Alexander in writing and accounts. Don't be discouraged though they make but slow progress in both, but persevere a little every evening. I think you can hardly employ an hour at night to better purpose. And make James read every convenient opportunity. If I live to come up beside you, I shall take that burden off your shoulders. Be the constant friend and counsellor of your little colony, to assist them in their difficulties, encourage them in their despondencies, to make them as happy as circumstances will enable you. A mother, brothers and sisters, in a foreign country, looking up to you as their best friend and supporter, places you in a dignified point of view. The future remembrance of your kind duty to them now, will, in the hour of your own distress, be as a healing angel of peace to your mind. Do everything possible to make your house comfortable—fortify the garrison in every point—stop every crevice that may let in that chilling devil, the roaring blustering north-west—heap up fires big enough for an Indian war-feast—keep the flour-barrel full—bake loaves like Hamles Head*—make the loom thunder, and the pot boil; and your snug little cabin re-echo nothing but sounds of domestic felicity. I will write you the moment I hear of George. I shall do everything I have said to you, and never lose sight of the eighteenth of March; for which purpose I shall keep night-school this winter, and retain every farthing but what necessity requires—depend upon me. These are the outlines of *my* plan. If health stand it, all will be well; if not, we cannot help it. Rumin ate on all this, and consult together. If you still think of coming down I hope you would not hesitate for a moment to make my neighborhood your home. If you come I shall be happy to have you once more beside me. If you resolve to stay on the farm, and put things in order as far as possible, I will think you have done what you thought best. But I forget that my paper is done.

“Robb, Orr, &c., have escaped as yet from the pestilence; but Robb's three children have all had the ague. Rabby Rowan has gone to *Davie's Locker* at last: he died in the West Indies. My brother David talks of coming to America, and my father, poor old man, would be happy to be with you, rough and uncomfortable as your situation at present is. As soon as I finish this I shall write to your mother and Alexander. There is a letter for John M., which he is requested to answer by his father-in-law. I hope John will set a firm resolute heart to the undertaking, and plant a posterity in that rich western country, to perpetuate his name for ever. Thousands here would rejoice to be in his situation. How happy may you live thus united together in a

* The name of a rock near Paisley.

free and plentiful country, after so many years of painful separation, where the bare necessities of life were all that incessant drudgery could procure, and even that but barely! Should even sickness visit you, which God forbid, each of you is surrounded by almost all the friends you have in the world, to nurse you, and pity and console you; and surely it is not the least sad comfort of a death-bed, to be attended by affectionate relatives. Write me positively by post, two or three times. My best love to my sister, to Isabella, Alexander, John, the two Maries, James, Jeany, little Annie. God Almighty bless you all.

"Your ever affectionate friend,

"ALEX. WILSON."

TO ALEXANDER DUNCAN.

"October 31st, 1802.

"DEAR ALEXANDER.

"I have laughed on every perusal of your letter. I have now deciphered the whole, except the blots, but I fancy they are only by the way of *half mourning* for your doleful captivity in the backwoods, where there is nothing but wheat and butter, eggs and gammon, for *hagging* down trees. Deplorable! what must be done? It is a good place, you say, for a man who has a parcel of *weans*!

"But forgive this joking. I thank you, most heartily, for this your *first letter* to me; and I hope you will follow it up with many more. I shall always reply to them with real pleasure. I am glad that your chief objection to the country is want of money. No place is without its inconveniences. Want of the necessities of life would be a much greater grievance. If you can, in your present situation, procure sufficient of these, though attended with particular disadvantages, I would recommend you to persevere where you are. I would wish you and William to give your joint labors to putting the place in as good order as possible. A farm of such land, in good cultivation, is highly valuable; it will repay all the labor bestowed upon it a hundred-fold; and contains within it all the powers of plenty and independence. These it only requires industry to bring forth, and a small stock of money to begin with. The money I doubt not of being able to procure, next summer, for a year or two, on interest, independent of two hundred dollars of my own, which I hope to possess on or before the middle of March next. C. S. is very much attached to both your brother and me; and has the means in his power to assist us—and I know he will. In the meantime, if you and William unite in the undertaking, I promise you as far as I am concerned, to make it the best plan you could pursue.

"Accustom yourself, as much as you can, to working out. Don't despise *hagging* down trees. It is hard work, no doubt; but taken moderately, it strengthens the whole sinews; and is a manly and independent employment. An old weaver is a poor, emaciated, helpless being, shivering over rotten yarn, and groaning over his empty flour barrel. An old farmer sits in his armchair before his jolly fire, while his joists are crowded with hung beef and gammons, and the bounties of heaven are pouring into his barns. Even the article of

health is a consideration sufficient to make a young man prefer the labors of the field: for health is certainly the first enjoyment of human life. But perhaps weaving holds out advantages that farming does not. Then blend the two together; weave in the depth of winter, and work out the rest of the year. We will have it in our power, before next winter, to have a shop, looms, &c., provided. Consider all I have said, and if I have a wrong view of the subject, form your own plans, and write me without delay."

TO MR. WILLIAM DUNCAN.

"GRAY'S FERRY, December 23d, 1802.

"The two Mr. Purdies popped into my school, this afternoon, as unexpected as they were welcome, with news from the promised land. I shall detain them with me all night, on purpose to have an opportunity of writing you a few lines. I am glad you are all well. I hope that this is the last devilish slough of despond which you will have to struggle in for some time. I will do all that I said to you, in my last, by the middle of March; so let care and sorrow be forgotten; and industry, hope, good humor and economy, be your bosom friends. * * * * *

"I succeed tolerably well; and seem to gain in the esteem of the people about. I am glad of it, because I hope it will put it in my power to clear the road a little before you, and banish despondence from the heart of my dearest friend. Be assured that I will ever as cheerfully contribute to your relief in difficulties, as I will rejoice with you in prosperity. But we have nothing to fear. One hundred bushels of wheat, to be sure, is no great marketing; but has it not been expended in the support of a mother, and infant brothers and sisters, thrown upon your bounty in a foreign country? Robert Burns, when the mice nibbled away his corn, said:

" 'I'll get a blessin wi' the lave,
And never miss 't.'"

"Where he expected one, you may a thousand. Robin, by his own confession, ploughed up his mice out of *ha' and hame*. You have built for your little wanderers a *cozie bield*, where none dare molest them. There is more true greatness in the affectionate exertions which you have made for their subsistence and support, than the bloody catalogue of heroes can boast of. Your own heart will speak peace and satisfaction to you, to the last moment of your life, for every anxiety you have felt on their account. Colonel Sullivan talks with pride and affection of you.

"I wish Alexander had written me a few lines of the old German text. I laugh every time I look at his last letter: it's a perfect antidote against the spleen. Well, Alexander, which is the best *fun*, handling the shuttle, or the axe? When John M. comes down, write me largely. And, dear sister, let me hear from you also. * * * * *

"I would beg leave to suggest to you the propriety of teaching the children to behave with good manners, and dutiful respect, to yourself, each other, and everybody.

"You must excuse me for anything I may have said amiss, or anything I may have omitted to mention. I am, with sincere attachment, your affectionate friend."

The foregoing letters place the character of Wilson in the most amiable point of view; and they entirely supersede any remarks which I might make upon those social affections that distinguished him through life.

In his new situation Wilson had many enjoyments; but he had likewise moments of despondency, which solitude tended to confirm. He had addicted himself to the writing of verses, and to music; and, being of a musing turn of mind, had given way to those seductive feelings, which the charming scenery of the country, in a sensible heart, never fails to awaken. This was a fatal bias, which all his efforts could not counteract or remove. His acquaintance perceived the danger of his state; and one in whose friendship he had placed strong reliance, and to whom he had freely unburthened himself, Mr. Lawson, the engraver, entertained apprehensions for the soundness of his intellect.* There was one subject which contributed not a little to increase his mental gloom, and this was the consideration of the life of penury and dependence to which he seemed destined as the teacher of a country school. Mr. Lawson immediately recommended the renouncing of poetry and the flute, and the substituting of the amusement of drawing in their stead, as being most likely to restore the balance of his mind; and as an employment well adapted to one of his recluse habits and inclinations. To this end sketches of the human figure, and landscapes, were provided for him; but his attempts were so unpromising that he threw them aside with disgust; and concluded that one at his period of life could never succeed in the art of delineation. Mr. Bartram now advised a trial at birds; and being tolerably skilful himself, exhibited his portfolio, which was graced with many specimens from his own hands. The attempt was made, and succeeded beyond the expectation of Wilson, or that of his friends. There was a magic in the employment which aroused all the energies of his soul; he saw, as it were, the dayspring of a new creation; and, from being the humble follower of his instructors, he was soon qualified to lead the way in the charming art of imitating the works of the Great Original.

That Wilson likewise undertook the task of delineating flowers, appears from the following note to Mr. Bartram, dated November 20th, 1803:

* The following incident was communicated to me by Colonel Carr, who had it from Wilson himself. While the latter labored under great depression of spirits, in order to soothe his mind he one day rambled with his gun. The piece by accident slipped from his hand, and, in making an effort to regain it, the lock was cocked. At that moment had the gun gone off, it is more than probable that he would have lost his life, as the muzzle was opposite to his breast. When Wilson reflected on the danger which he had escaped, he shuddered at the idea of the imputation of suicide, which a fatal occurrence, to one in his frame of mind, would have occasioned. There is room to conjecture that many have accidentally met their end, whose memories have been sullied by the alleged crime of self-murder.

"I have attempted two of those prints which Miss Nancy* so obligingly, and with so much honor to her own taste, selected for me. I was quite delighted with the anemone, but fear I have made but bungling work of it. Such as they are I send them for your inspection and opinion; neither of them is quite finished. For your kind advice towards my improvement I return my most grateful acknowledgments.

"The duties of my profession will not admit me to apply to this study with the assiduity and perseverance I could wish. Chief part of what I do is sketched by candle-light; and for this I am obliged to sacrifice the pleasures of social life, and the agreeable moments which I might enjoy in company with you and your amiable friend. I shall finish the other some time this week; and shall be happy if what I have done merit your approbation."

As Wilson advanced in drawing, he made corresponding progress in the knowledge of Ornithology. He had perused the works of some of the naturalists of Europe, who had written on the subject of the birds of America, and became so disgusted with their caricatured figures, fanciful theories, fables and misrepresentations, that on turning, as he himself observes, from these barren and musty records to the magnificent repository of the woods and fields—the *Grand Aviary of Nature*, his delight bordered on adoration. It was not in the inventions of man that the Divine Wisdom could be traced; but it was visible in the volume of Creation, wherein are inscribed the Author's lessons of goodness and love, in the conformation, the habitudes, melody and migrations, of the feathered tribes, that beautiful portion of the work of his hands.

To invite the attention of his fellow-citizens to a study, attended with so much pleasure and improvement, was the natural wish of one who had been educated in the School of Wisdom. He humbly thought it would not be rendering an unacceptable service to the GREAT MASTER OF CREATION himself, to derive from objects that everywhere present themselves in our rural walks, not only amusement and instruction, but the highest incitements to piety and virtue. Moreover, self-gratification, that source of so many of our virtuous actions, had its share in urging him to communicate his observations to others.† He examined the strength of his mind, and its resources; the undertaking seemed hazardous; he pondered it for a long while before he ventured to mention it to his friends. At length the subject was made known to Mr. Bartram, who freely expressed his confidence in the abilities and acquirements of Wilson; but, from a knowledge of the situation and circumstances of the latter, hinted his fears that the difficulties which stood in the way of such an enterprise were almost too great to be overcome. Wilson was not easily intimidated; the very mention of difficulties suggested to his mind the means of surmounting them, and the glory which would accrue from such an achievement. He had a ready answer to every objection of his cautious friend; and evinced such enthusiasm, that Mr. Bartram trembled lest his intemperate zeal should lead him into a situation, from the embarrassments of which he could not well be extricated.

* Mr. Bartram's niece, now the consort of Colonel Carr.

† Introduction to Vol. I.

The scheme was unfolded to Mr. Lawson, and met with his cordial approbation. But he observed that there were several considerations which should have their weight, in determining in an affair of so much importance. These were frankly stated; and followed by advice, which did not quadrate with the temperament of Wilson; who, vexed that his friend would not enter into his feelings, expressed his scorn of the maxims of prudence with which he was assailed, by styling them the offspring of a *cold, calculating, selfish* philosophy. Under date of March 12th, 1804, he thus writes to the last-named gentleman: "I dare say you begin to think me very ungenerous and unfriendly in not seeing you for so long a time. I will simply state the cause, and I know you will excuse me. Six days in one week I have no more time than just to swallow my meals, and return to my *sanctum sanctorum*. Five days of the following week are occupied in the same routine of *pedagoguing* matters; and the other two are sacrificed to that itch for drawing, which I caught from your honorable self. I never was more wishful to spend an afternoon with you. In three weeks I shall have a few days' vacancy, and mean to be in town chief part of the time. I am most earnestly bent on pursuing my plan of making a collection of all the birds in this part of North America. Now I don't want you to throw cold water, as Shakspeare says, on this notion, Quixotic as it may appear. I have been so long accustomed to the building of airy castles and brain windmills, that it has become one of my earthly comforts, a sort of a rough bone, that amuses me when sated with the dull drudgery of life."

TO MR. WM. BARTRAM.

"March 29th, 1804.

"Three months have passed away since I had the pleasure of seeing you; and three dark and heavy months they have been to your family. My heart has shared in your distress, and sincerely sympathizes with you for the loss you have sustained. But Time, the great curer of every grief, will gradually heal those wounds which Misfortune has inflicted; and many years of tranquillity and happiness are, I sincerely hope, reserved for you.

"I have been prevented from seeing you so long by the hurry of a crowded school, which occupied all my hours of daylight, and frequently half the others. The next quarter will leave me time enough; and, as there is no man living in whose company I have more real satisfaction, I hope you will pardon me if I now and then steal a little of your leisure.

"I send for your amusement a few attempts at some of our indigenous birds, hoping that your good nature will excuse their deficiencies, while you point them out to me. I intended to be the bearer of them myself, but having so many little accounts to draw up before to-morrow, I am compelled to plead this as my excuse. I am almost ashamed to send you these drawings; but I know your generous disposition will induce you to encourage one in whom you perceive a sincere and eager wish to do well. They were chiefly colored by candle-light.

"I have now got my collection of native birds considerably enlarged; and shall endeavor, if possible, to obtain all the smaller ones this summer. Be pleased to mark on the drawings, with a pencil, the names of each bird, as

except three or four, I do not know them. I shall be extremely obliged to you for every hint that will assist me in this agreeable amusement.

"I am very anxious to see the performances of your fair pupil; and beg you would assure her from me that any of the birds I have are heartily at her service. Surely nature is preferable, to copy after, to the works of the best masters, though perhaps more difficult; for I declare that the face of an owl, and the back of a lark, have put me to a nonplus; and if Miss Nancy will be so obliging as to try her hand on the last mentioned, I will furnish her with one in good order; and will copy her drawing with the greatest pleasure; having spent almost a week on two different ones, and afterwards destroyed them both, and got nearly in the slough of despond."

TO MR. WM. BARTRAM.

"KINGSESSING, March 31st, 1804.

"I take the first few moments I have had since receiving your letter, to thank you for your obliging attention to my little attempts at drawing, and for the very affectionate expressions of esteem with which you honor me. But sorry I am, indeed, that afflictions so severe, as those you mention, should fall where so much worth and sensibility reside, while the profligate, the unthinking and unfeeling, so frequently pass through life, strangers to sickness, adversity or suffering. But God visits those with distress whose enjoyments he wishes to render more exquisite. The storms of affliction do not last for ever; and sweet is the serene air, and warm sunshine, after a day of darkness and tempest. Our friend has, indeed, passed away, in the bloom of youth and expectation; but nothing has happened but what almost every day's experience teaches us to expect. How many millions of beautiful flowers have flourished and faded under your eye; and how often has the whole profusion of blossoms, the hopes of a whole year, been blasted by an untimely frost! He has gone only a little before us; we must soon follow; but while the feelings of nature cannot be repressed, it is our duty to bow with humble resignation to the decisions of the great Father of all, rather receiving with gratitude the blessings he is pleased to bestow, than repining at the loss of those he thinks proper to take from us. But allow me, my dear friend, to withdraw your thoughts from so melancholy a subject, since the best way to avoid the force of any overpowering passion, is to turn its direction another way.

"That lovely season is now approaching, when the garden, woods and fields, will again display their foliage and flowers. Every day we may expect strangers, flocking from the south, to fill our woods with harmony. The pencil of Nature is now at work, and outlines, tints, and gradations of lights and shades, that baffle all description, will soon be spread before us by that great master, our most benevolent friend and Father. Let us cheerfully participate in the feast he is preparing for all our senses. Let us survey those millions of green strangers, just peeping into day, as so many happy messengers come to proclaim the power and munificence of the Creator. I confess that I was always an enthusiast in my admiration of the rural scenery of Nature; but, since your example and encouragement have set me to attempt to imitate her productions, I see new beauties in every bird, plant or flower, I contemplate;

and find my ideas of the incomprehensible First Cause still more exalted the more minutely I examine his works.

"I sometimes smile to think that while others are immersed in deep schemes of speculation and aggrandizement—in building towns and purchasing plantations, I am entranced in contemplation over the plumage of a lark, or gazing like a despairing lover, on the lineaments of an owl. While others are hoarding up their bags of money, without the power of enjoying it, I am collecting, without injuring my conscience, or wounding my peace of mind, those beautiful specimens of Nature's works that are for ever pleasing. I have had live crows, hawks and owls—opossums, squirrels, snakes, lizards, &c., so that my room has sometimes reminded me of Noah's ark; but Noah had a wife in one corner of it, and in this particular our parallel does not altogether tally. I receive every subject of natural history that is brought to me, and though they do not march into my ark, from all quarters, as they did into that of our great ancestor, yet I find means, by the distribution of a few fivepenny *bits*, to make them find the way fast enough. A boy, not long ago, brought me a large basket full of crows. I expect his next load will be bull-frogs, if I don't soon issue orders to the contrary. One of my boys caught a mouse in school, a few days ago, and directly marched up to me with his prisoner. I set about drawing it that same evening, and all the while the pantings of its little heart showed it to be in the most extreme agonies of fear. I had intended to kill it, in order to fix it in the claws of a stuffed owl, but happening to spill a few drops of water near where it was tied, it lapped it up with such eagerness, and looked in my face with such an eye of supplicating terror, as perfectly overcame me. I immediately untied it, and restored it to life and liberty. The agonies of a prisoner at the stake, while the fire and instruments of torment are preparing, could not be more severe than the sufferings of that poor mouse; and, insignificant as the object was, I felt at that moment the sweet sensations that mercy leaves on the mind when she triumphs over cruelty.

"My dear friend, you see I take the liberty of an old acquaintance with you, in thus trifling with your time. You have already raised me out of the slough of despond, by the hopes of your agreeable conversation, and that of your amiable pupil. Nobody, I am sure, rejoices more in her acquisition of the beautiful accomplishment of drawing than myself. I hope she will persevere. I am persuaded that any pains you bestow on her will be rewarded beyond your expectations. Besides, it will be a new link in that chain of friendship and consanguinity by which you are already united; though I fear it will be a powerful addition to that attraction which was fully sufficient before, to make even a virtuoso quit his owls and opossums, and think of something else."

TO MR. WM. BARTRAM.

"May 21st, 1804.

"I send you a few more imitations of birds for your opinion, which I value beyond that of anybody else, though I am seriously apprehensive that I am troublesome. These are the last I shall draw for some time, as the employment consumes every leisure moment, leaving nothing for friendship, or those

rural recreations which I so much delight in. Even poetry, whose heavenly enthusiasm I used to glory in, can hardly ever find me at home, so much has this bewitching amusement engrossed all my senses.

"Please to send me the names of the birds. I wish to draw a small flower, in order to represent the humming-bird in the act of feeding: will you be so good as to send me one suitable, and not too large? The legs and feet of some are unfinished; they are all miserably imperfect, but your generous candor I know to be beyond all their defects."

TO MR. WM. BARTRAM.

"June 15th, 1804.

"I have arranged my business for our little journey; and, if to-morrow be fair, I shall have the chaise ready for you at any time in the morning, say seven o'clock. Or if you think any other hour more suitable, please to let me know by the bearer, and I shall make it answerable to me."

"June 16th, 1804.

"I believe we had better put off our intended jaunt until some more auspicious day.

"Clouds, from eastern regions driven,
Still obscure the gloomy skies;
Let us yield, since angry Heaven
Frowns upon our enterprise.

"Haply some unseen disaster
Hung impending o'er our way,
Which our kind Almighty Master
Saw, and sought us thus to stay.

"By and by, when fair Aurora
Bids the drowsy fogs to fly,
And the glorious god of Flora
Rises in a cloudless sky,

Then, in whirling chariot seated,
With my friend I'll gladly go:
With his converse richly treated—
Happy to be honored so."

The inconveniences of his situation, as teacher of a country school, determined Wilson to endeavor after some employment more congenial to his disposition; and that would enable him to attain to that distinction, as a scholar, which he was anxious to merit. He consequently directed his views to the "Literary Magazine," conducted by C. B. Brown, a monthly publication of some note, as a suitable vehicle for the diffusion of those productions which he hoped would arrest the attention of the public. In this magazine appeared his "Rural Walk," and his "Solitary Tutor;" but it does not appear that their author received any other reward for his well-meant endeavors than the thanks of the publisher. He was flattered, it is true, by a republication, in

the "Port Folio," of the "Rural Walk," with some "commendations of its beauties;" but I must confess that my perspicacity has not enabled me to detect them.

The then editor of the "Port Folio," Mr. Dennie, enjoyed the reputation of being a man of taste and judgment; and the major part of his selections should seem to prove that his character, in these respects, was well founded. But with regard to the poem in question, I am totally at a loss to discover by what principles of criticism he judged it, seeing that his opinion of it will by no means accord with mine. The initial stanza, which is not an unfair specimen of the whole, runs thus:

"The summer sun was riding high,
The woods in deepest verdure drest;
From care and clouds of dust to fly,
Across yon bubbling brook I past."

The reader of classical poetry may well pardon me if, out of an effusion consisting of forty-four stanzas, I save him the task of perusing any more than one.

TO MR. LAWSON.

"GRAY'S FERRY, August 14th, 1804.

"DEAR SIR,

"Enclosed is a copy of the '*Solitary Tutor*,' which I should like to see in the 'Literary Magazine' of this month, along with the other poem which I sent the editor last week. Wishing, for my future benefit, to call the public attention to these pieces, if, in the editor's opinion, they should seem worthy of it, I must request the favor of you to converse with him on this subject. You know the numerous pieces I am in possession of, would put it in my power to support tolerably well any recommendation he might bestow on these; and while they would not, I trust, disgrace the pages of his valuable publication, they might serve as my introduction to the literary world, and as a sort of inspiration to some future and more finished attempts. Knowing that you will freely pardon the *quantum* of vanity that suggested these hints,

"I remain, with real regard, &c."

TO MR. WM. BARTRAM.

"UNION SCHOOL, September 17th, 1804.

"The second volume of Pinkerton's Geography has at length made its appearance; and I take the freedom of transmitting it, and the atlas, for your amusement. To condemn so extensive a work before a re-perusal, or without taking into consideration all the difficulties that were to be surmounted, is, perhaps, not altogether fair. Yet we almost always form our judgment from the first impressions, and this judgment is very seldom relinquished. You will, therefore, excuse me if I give you some of the impressions made on myself by a cursory perusal.

"Taking it *all in all*, it is certainly the best treatise on the subject hitherto published; though had the author extended his plan, and, instead of two, given us four volumes, it would not frequently have laid him under the neces-

sity of disappointing his reader by the bare mention of things that required greater illustration; and of compressing the natural history of whole regions into half a page. Only *thirty-four* pages allotted to the whole United States! This is brevity with a vengeance. I had indeed expected from the exertions of Dr. Barton, as complete an account of the natural history of this part of the world as his means of information, and the limits of the work, would admit. I have been miserably disappointed; and you will pardon me when I say that his omitting entirely the least reference to your researches in botany and zoology, and seeming so solicitous to let us know of his own productions, bespeak a narrowness of mind, and self-consequence, which are truly despicable. Every one acquainted with you both, would have confidently trusted that he would rejoice in the opportunity of making the world better acquainted with a man whose works show such a minute and intimate knowledge of these subjects; and from whom he had received so much information. But no—not even the slightest allusion, lest posterity might discover that there existed, at this time, in the United States, a naturalist of information superior to his. My dear sir, I am a Scotchman, and don't love my friends with that cold selfish prudence which I see in some; and if I offend in thus speaking from the fulness of my heart, I know you will forgive me.

"Pinkerton has, indeed, furnished us with many curious particulars unknown, or, at least, unnoticed, by all former geographers; and also with other items long since exploded as fabulous and ridiculous; such is his account of the Upas or poisonous tree; and of children having been lost in some of our American swamps, and of being seen many years afterwards, in a wild, savage state! But he very gravely tells his readers that the people of Scotland eat little or no pork from a prejudice which they entertain against swine, the Devil having taken possession of some of them two thousand years ago! What an enlightened people these Scots must be; and what a delicate taste they must be possessed of! Yet I have traversed nearly three-fourths of that country, and mixed much with the common people, and never heard of such an objection before. Had the learned author told his readers that, until late years, Scotland, though abounding in rich pastures, even to its mountain tops, was yet but poorly productive in grain, fruit, &c., the usual food of hogs, and that on this account innumerable herds of sheep, horses and cattle were raised, and but very little pork, he would then have stated the simple facts; and not subjected himself to the laughter of every native of that part of Britain.

"As to the pretended antipathy of the Scots to eels, because they resemble snakes, it is equally ridiculous and improbable; ninety-nine out of a hundred of the natives never saw a snake in their lives. The fact is, it is as usual to eat eels in Scotland, where they can be got, as it is in America; and although I have frequently heard such objections made to the eating of eels here, where snakes are so common, yet I do not remember to have heard the comparison made in Scotland. I have taken notice of these two observations of his, because they are applied generally to the Scots, making them appear a weak, squeamish-stomached set of beings, infected with all the prejudices and antipathies of children.

"These are some of my objections to this work, which, however, in other respects, does honor to the talents, learning, and industry of the compiler."

In the month of October, 1804, Wilson, accompanied with two of his friends, set out on a pedestrian journey to visit the far-famed cataract of Niagara, whereof he had heard much, but which he had never had an opportunity of beholding. The picturesque scenery of that beautiful river, the vastness and sublimity of the cataract, as might be expected, filled the bosom of our traveller with the most rapturous emotions. And he ever after declared, that no language was sufficiently comprehensive to convey an adequate idea of that wonderful curiosity.

On the return of Wilson, he employed his leisure moments in writing a poetical narrative of the journey. This poem, which contains some interesting description, and pleasing imagery, is entitled "The Foresters;" and was gratuitously tendered to the proprietors of the *Port Folio*, and published in that excellent miscellany, in the years 1809-10.

This expedition was undertaken rather too late in the season, and, consequently, our travellers were subjected to hardships of which they were not aware. Winter overtook them whilst in the Genesee country, in their return by the way of Albany; and they were compelled to trudge, the greater part of the route, through snow midleg deep.

TO MR. WM. BARTRAM.

"GRAY'S FERRY, December 15th, 1804.

"Though now snug at home, looking back in recollection on the long, circuitous journey which I have at length finished, through deep snows, and almost uninhabited forests; over stupendous mountains, and down dangerous rivers: passing over, in a course of thirteen hundred miles; as great a variety of men and modes of living, as the same extent of country can exhibit in any part of the United States—though in this tour I have had every disadvantage of deep roads and rough weather; hurried marches, and many other inconveniences to encounter,—yet so far am I from being satisfied with what I have seen, or discouraged by the fatigues which every traveller must submit to, that I feel more eager than ever to commence some more extensive expedition; where scenes and subjects entirely new, and generally unknown, might reward my curiosity; and where perhaps my humble acquisitions might add something to the stores of knowledge. For all the hazards and privations incident to such an undertaking, I feel confident in my own spirit and resolution. With no family to enchain my affections; no ties but those of friendship; and the most ardent love of my adopted country—with a constitution which hardens amidst fatigues; and a disposition sociable and open, which can find itself at home by an Indian fire in the depth of the woods, as well as in the best apartment of the civilized; I have at present a real design of becoming a traveller. But I am miserably deficient in many acquirements absolutely necessary for such a character. Botany, mineralogy, and drawing I most ardently wish to be instructed in, and with these I should fear nothing. Can I yet make any progress in botany, sufficient to enable me to be useful, and what would be the most proper way to proceed? I have many leisure

moments that should be devoted to this pursuit, provided I could have hopes of succeeding. Your opinion on this subject will confer an additional obligation on your affectionate friend."

It is worthy of remark, that when men of uncommon talents conceive any great scheme, they usually overlook those circumstances of minor importance, which ordinary minds would estimate as first deserving attention. Thus Wilson, with an intellect expanded with information, and still grasping at further improvement as a means of distinction, would fain become a traveller, even at the very moment when the sum total of his funds amounted to *seventy-five cents!*

TO MR. WM. DUNCAN.

"GRAY'S FERRY, December 24th, 1804.

"You have no doubt looked for this letter long ago, but I wanted to see how matters would finally settle with respect to my school before I wrote; they remain, however, as uncertain as before; and this quarter will do little more than defray my board and firewood. Comfortable intelligence truly, methinks I hear you say; but no matter.

* * * *

"I shall begin where you and I left off our story, viz. at Aurora, on the shores of the Cayuga.* The evening of that day, Isaac and I lodged at the outlet of Owasco Lake, on the turnpike, seven or eight miles from Cayuga bridge; we waded into the stream, washed our boots and pantaloons, and walked up to a contemptible dram-shop, where, taking possession of one side of the fire, we sat deafened with the noise and hubbub of a parcel of drunk tradesmen. At five next morning we started; it had frozen; and the road was in many places deep and slippery. I insensibly got into a hard step of walking; Isaac kept groaning a rod or so behind, though I carried his gun.
* * * We set off again; and we stopped at the outlet of Skaneateles Lake; ate some pork-blobber and bread; and departed. At about two in the afternoon we passed Onondaga Hollow, and lodged in Manlius Square, a village of thirty houses, that have risen like mushrooms in two or three years; having walked this day thirty-four miles. On the morning of the 22d we started as usual by five—road rough—and Isaac grunting and lagging behind. This day we were joined by another young traveller, returning home to his father's on the Mohawk; he had a pocket bottle, and made frequent and long applications of it to his lips. The road this day bad, and the snow deeper than before. Passing through Oneida castle, I visited every house within three hundred yards of the road, and chatted to the copper-colored tribe. In the evening we lodged at Lard's tavern, within eleven miles of Utica, the roads deplorably bad, and Isaac and his disconsolate companion groaning at every step behind me, so that, as drummers do in battle, I was frequently obliged to keep before, and sing some lively ditty, to drown the sound of their ohs! and ahs! and O Lords! The road for fifteen or twenty miles was knee-deep of mud. We entered Utica at nine the next morning. This place is three times larger than it was four years ago; and from Oneida

*Mr. Duncan remained among his friends at Aurora.

to Utica is almost an entire continued village. This evening we lodged on the east side of the Mohawk, fifteen miles below Utica, near which I shot a bird of the size of a mocking-bird, which proves to be one never yet described by naturalists. I have it here in excellent order. From the town called Herkimer we set off through deep mud, and some snow; and about mid-day, between East and West Canada Creeks, I shot three birds of the jay kind, all of one species, which appears to be undescribed. Mr. Bartram is greatly pleased at the discovery; and I have saved two of them in tolerable condition. Below the Little Falls the road was excessively bad, and Isaac was almost in despair, in spite of all I could do to encourage him. We walked this day twenty-four miles; and early on the 25th started off again through deep mud, till we came within fifteen miles of Schenectady, when a boat coming down the river, Isaac expressed a wish to get on board. I walked six miles afterwards by myself, till it got so dark that I could hardly rescue myself from the mud-holes. The next morning I entered Schenectady, but Isaac did not arrive, in the boat, till noon. Here we took the stage-coach for Albany, the roads being excessively bad, and arrived there in the evening. After spending two days in Albany, we departed in a sloop, and reached New York on Saturday, at noon, the first of December. My boots were now reduced to legs and upper leathers; and my pantaloons in a sad plight. Twelve dollars were expended on these two articles. * * * * *

"On Friday, the 7th December, I reached Gray's Ferry, having walked forty-seven miles that day. I was absent two months on this journey, and I traversed in that time upwards of twelve hundred miles.

"The evening of my arrival I went to L***h's, whose wife had got twins, a boy and a girl. The boy was called after me: this honor took six dollars more from me. After paying for a cord of wood, I was left with only *three quarters* of a dollar."

TO MR. WM. BARTRAM.

"Union School, December 24th, 1804.

"I have perused Dr. Barton's publication,* and return it with many thanks for the agreeable and unexpected treat it has afforded me. The description of the Falls of Niagara is, in some places, a just, though faint, delineation of that stupendous cataract. But many interesting particulars are omitted; and much of the writer's reasoning on the improbability of the *wearing away* of the precipice, and consequent recession of the falls, seems contradicted by every appearance there; and many other assertions are incorrect. Yet on such a subject, everything, however trifling, seems to attract attention: the reader's imagination supplying him with scenery in abundance, even amidst the feebleness and barrenness of the meanest writer's description.

"After this article, I was most agreeably amused with 'Anecdotes of an American Crow,' written in such a pleasing style of playful humor, as I have seldom seen surpassed; and forming a perfect antidote against the spleen;

*The Philadelphia Medical and Physical Journal, Vol. I.

abounding, at the same time, with observations and reflections not unworthy of a philosopher.

"The sketch of your father's life, with the extracts from his letters, I read with much pleasure. They will remain lasting monuments of the worth and respectability of the father, as well as of the filial affection of the son.

"The description of the Choctaw *Bonepickers* is a picture so horrible, that I think nothing can exceed it. Many other pieces in this work are new and interesting. It cannot fail to promote the knowledge of natural history, and deserves, on this account, every support and encouragement."

TO MR. WM. BARTRAM.

"December 26th, 1804.

"I send for your amusement the "Literary Magazine" for September, in which you will find a well-written, and, except in a few places, a correct description of the great Falls of Niagara. I yesterday saw a drawing of them, taken in 1768, and observe that many large rocks, that used formerly to appear in the rapids above the Horseshoe Falls, are now swept away; and the form of the curve considerably altered, the consequence of its gradual retrogression. I hope this account will entertain you, as I think it by far the most complete I have yet seen.

TO MR. WM. DUNCAN.

"KINGSSESSING, February 20th, 1805.

"I received yours of January 1st, and wrote immediately; but partly through negligence, and partly through accident, it has not been put into the post-office; and I now sit down to give you some additional particulars.

* * * * *

"This winter has been entirely lost to me, as well as to yourself. I shall on the twelfth of next month be scarcely able to collect a sufficiency to pay my board, having not more than twenty-seven scholars. Five or six families, who used to send me their children, have been almost in a state of starvation. The rivers Schuylkill and Delaware are still shut, and wagons are passing and repassing at this moment upon the ice.

"The solitary hours of this winter I have employed in completing the poem which I originally intended for a description of your first journey to Ovid. It is now so altered as to bear little resemblance to the original; and I have named it the '*Foresters*.' It begins with a description of the Fall or Indian Summer, and relates, minutely, our peregrinations and adventures until our arrival at Catharine Landing, occupying ten hundred and thirty lines. The remainder will occupy nearly as much; and as I shall, if ever I publish it, insert numerous notes, I should be glad if, while you are on the spot, you would collect every interesting anecdote you can of the country, and of the places which we passed through. Hunting stories, &c., peculiar to the

would be acceptable. I should be extremely glad to spend one afternoon with you for the benefit of your criticisms. I lent the poem to Mr. * * * our senator, who seems to think it worth reading; and * * * has expressed many flattering compliments on my labors; but I don't

value either of their opinions so much as I would yours. I have bestowed more pains upon this than I ever did upon any former poem; and if it contain nothing really good, I shall for ever despair of producing any other that will."

TO MR. WM. BARTRAM.

"March 4th, 1805.

"My Dear Friend,

"This day the heart of every republican, of every good man, within the immense limits of our happy country, will leap with joy!

"The re-appointment and continuance of our beloved Jefferson to superintend our national concerns, is one of those distinguished blessings whose beneficent effects extend to posterity; and whose value our hearts may feel, but can never express.

"I congratulate with you, my dear friend, on this happy event. The enlightened philosopher,—the *distinguished naturalist*,—the *first statesman on earth*,—the friend, the ornament of science, is the father of our country, the faithful guardian of our liberties. May the precious fruits of such pre-eminent talents long, long be ours: and the grateful effusions of millions of freemen, at a far distant period, follow their aged and honored patriot to the peaceful tomb.

"I am at present engaged in drawing the two birds which I brought from the Mohawk; and, if I can finish them to your approbation, I intend to transmit them to our excellent president, as the child of an amiable parent presents to its affectionate father some little token of its esteem.

TO MR. WM. DUNCAN.

GRAY'S FERRY, March 26th, 1805.

"I received your letter of January 1st, some time about the beginning of February; and wrote the same evening very fully; but have heard nothing in return. Col. S. desires me to tell you to be in no uneasiness, nor part with the place to a disadvantage on his account. His son has been with me since January. I told you in my last of the thinness of my school: it produced me the last quarter only twenty-six scholars; and the sum of *fifteen* dollars was all the money I could raise from them at the end of the term. I immediately called the trustees together, and, stating the affair to them, proposed giving up the school. Two of them on the spot offered to subscribe between them one hundred dollars a-year, rather than permit me to go; and it was agreed to call a meeting of the people: the result was honorable to me, for forty-eight scholars were instantly subscribed for; so that the ensuing six months my school will be worth pretty near two hundred dollars. So much for my affairs. * * * * *

"I have never had a scrap from Scotland since last summer; but I am much more anxious to hear from you. I hope you have weathered this terrible winter, and that your heart and your limbs are as sound as ever. I also most devoutly wish that matters could be managed so that we could be together. This farm must either be sold, or let; it must not for ever be a great gulf between us. I have spent most of my leisure hours this winter in

writing the "*Foresters*," a poem descriptive of our journey. I have brought it up only to my shooting expedition at the head of the Seneca Lake; and it amounts already to twelve hundred lines. I hope that when you and I meet, it will afford you more pleasure than any of my productions has ever done. The two nondescript birds* which I killed on the Mohawk, attracted the notice of several naturalists about Philadelphia. On the 4th of March I set to work upon a large sheet of fine drawing-paper, and in ten days I finished two faithful drawings of them, far superior to any that I had done before. In the back ground I represented a view of the Falls of Niagara, with the woods wrought in as finely as I possibly could do. Mr. Lawson was highly pleased with it, and Mr. Bartram was even more so. I then wrote a letter to that *best of men*, Mr. Jefferson, which Mr. Bartram enclosed in one of his (both of which, at least copies of them, I shall show you when we meet), and sent off the whole, carefully rolled up, by the mail, on the 20th inst., to Monticello, in Virginia. The jay I presented to Mr. Peale, at his request, and it is now in the Museum. I have done but few other drawings, being so intent on the poem. I hope if you find any curious birds, you will attempt to preserve them, or at least their skins; if a small bird be carefully skinned, it can easily be set up at any time. I still intend to complete my collection of drawings; but the last will be by far the best. * * * *

"The poor of Philadelphia have suffered extremely this winter, the river having been frozen up for more than two months, yet the ice went away without doing any damage. I must again request that you and Alexander would collect the skins of as many birds as you have not seen here. * * * * The process of skinning the birds may amuse you; and your collection will be exceedingly agreeable to me. In the mean time never lose sight of getting rid of the troublesome farm, if it can be done with advantage; so that we may once more be together; and write to me frequently.

"I have now nothing more to say, but to give my affectionate compliments to your mother and all the family, and to wish you every comfort that the state of society you are in can afford. With the great volume of nature before you, you can never, while in health, be without amusement. Keep a diary of every thing you meet with that is curious. Look out, now and then, for natural curiosities as you traverse your farm; and remember me as you wander through your woody solitudes.

FROM MR. JEFFERSON.

"MONTICELLO, April 7th, 1805.

"Sir,

"I received here yesterday your favor of March 18th, with the elegant drawings of the new birds you found on your tour to Niagara, for which I pray you to accept my thanks. The jay is quite unknown to me. From my observations while in Europe, on the birds and quadrupeds of that quarter, I am of opinion there is not in our continent a single bird or quadruped which

* One of these birds was the Canada Jay (*Am. Orn.* vol. 3, p. 33, ed. 1st) which was known to naturalists.

is not sufficiently unlike all the members of its family there to be considered as specifically different; on this general observation I conclude with confidence that your jay is not a European bird.

"The first bird on the same sheet I judge to be a *Muscicapa* from its bill, as well as from the following circumstance. Two or three days before my arrival here a neighbor killed a bird, unknown to him, and never before seen here, as far as he could learn; it was brought to me soon after I arrived; but in the dusk of the evening, and so putrid that it could not be approached but with disgust. But I retain a sufficiently exact idea of its form and colors to be satisfied it is the same with yours. The only difference I find in yours is that the white on the back is not so pure, and that the one I saw had a little of a crest. Your figure, compared with the white-bellied *Gobe-mouche*, 8 Buff. 342, Pl. enlum. 566, shows a near relation. Buffon's is dark on the back.

"As you are curious in birds, there is one well worthy your attention, to be found, or rather heard, in every part of America, and yet scarcely ever to be seen; it is in all the forests, from spring to fall, and never but on the tops of the tallest trees, from which it perpetually serenades us with some of the sweetest notes, and as clear as those of the nightingale. I have followed it for miles without ever, but once, getting a good view of it. It is of the size and make of the mocking-bird, lightly thrush-colored on the back, and a grayish-white on the breast and belly. Mr. Randolph, my son-in-law, was in possession of one which had been shot by a neighbor; he pronounces this also a *Muscicapa*, and I think it much resembling the *Mouche-rolle de la Martinique*, 8 Buffon, 374, Pl. enlum. 568. As it abounds in all the neighborhood of Philadelphia, you may perhaps by patience and perseverance (of which much will be requisite) get a sight, if not a possession of it. I have for twenty years interested the young sportsmen of my neighborhood to shoot me one; but as yet without success. Accept my salutations and assurances of respect.

TH. JEFFERSON."

TO MR. WM. BARTRAM.

"April 18th, 1805.

"By Mr. Jefferson's condescending and very intelligent letter to me, which I enclose for your perusal, it appears that our jay is an entirely new, or rather undescribed bird, which met me on the banks of the Mohawk, to do me the honor of ushering him to the world. This duty I have conscientiously discharged, by introducing him to two naturalists: the one endeared to me, and every lover of science, by the benevolence of his heart; and the other ordained by Heaven to move in a distinguished orbit—an honor to the human race—the *patron of science*, and best hope of republicans! I say, that no bird, since Noah's days, could boast of such distinguished honor.

"Mr. Jefferson speaks of a very strange bird; please let me know what it is; I shall be on the look-out, and he must be a sly fellow if he escape me. I shall watch his motions, and the sound of his *serenade*, pretty closely, to be able to transmit to our worthy president a faithful sketch of a bird, which he has been so long curious to possess."

TO MR. WM. DUNCAN.

"GRAY'S FERRY, May 8th, 1805.

"I am glad to understand that the plantation is increasing so fast in value, but more so that it is not either sold or otherwise disposed of at the low rate at which we would have once thrown it away; yet it is the perpetual cause of separating us, which I am very sorry for. I am living a mere hermit, not spending one farthing, to see if I possibly can reimburse ****, who I can see is not so courteous and affable as formerly. I hope to be able to pay him one hundred dollars, with interest, next October, and the remainder in the spring, we shall then be clear of the world; and I don't care how many privations I suffer to effect that. I associate with nobody; spend my leisure hours in drawing, wandering through the woods, or playing upon the violin.

"I informed you in my last of sending Mr. Jefferson drawings of the Falls, and some birds, which I found on the Mohawk, and which it seems have never been taken notice of by any naturalist. He returned me a very kind and agreeable letter, from Monticello, expressing many obligations for the drawings, which he was highly pleased with; and describing to me a bird, which he is very desirous of possessing, having interested the young sportsmen of his neighborhood, he says, these twenty years, to shoot him one, without success. It is of the size and make of the mocking-bird, lightly thrush-colored on the back, and grayish-white on the breast; is never heard but from the tops of the tallest trees, whence it continually serenades us with some of the sweetest notes, and as clear as those of the nightingale. Mr. Bartram can give no account of this bird, except it be the wood robin, which I don't think it is; for Mr. Jefferson says, '*it is scarcely ever to be seen*;' and '*I have followed it for miles without ever, but once, getting a good view of it.*'* I have been on the look-out ever since, but in vain. If you can hear of such a bird, let me know. I wish you also to look for the new bird which I discovered. It is of the size of the blue jay; and is of that genus—of a dull lead color on the back—the forehead white—black on the back of the neck—the breast and belly a dirty, or brownish white, with a white ring round its neck—its legs and bill exactly the jay's. Pray inquire respecting it, and any other new bird. If they could be conveyed to me, drawings of them, presented to the same dignified character, might open the road to a better acquaintance, and something better might follow. Alexander and you, will, I hope, be on the look-out with

* After many inquiries, and an unwearied research, it turned out that this invisible musician was no other than the Wood Robin, a bird which, if sought for, in those places which it affects, may be seen every hour of the day. Its favorite haunts Wilson has beautifully described in its history; but so far from being found always "on the tops of the tallest trees," it is seldom seen in such places, but seems to prefer the horizontal branches, at no great height, especially when piping its exquisitely melodious song. One of its names, the Ground Robin, is derived from the circumstance of its being frequently seen upon the ground. Its song consists of several distinct parts, at the conclusion of each of which it commonly flies a few feet and rests just long enough to continue the strain. A person unacquainted with these particulars, would suppose that he heard several birds, in various quarters, responding to each other, and would find it hard to believe that the whole was the performance of one.

the gun, and kill every bird that comes in your way; and keep written descriptions, or the skins, if possible, of those you don't know. Were I able, I would undertake another journey up to you through the woods, while the birds are abundant; and nothing would give me so much pleasure as to make another extensive tour with you for this purpose; for I am persuaded that there are many species yet undescribed; and Mr. Jefferson is anxious to replenish his museum with the rare productions of his country."

TO MR. WM. DUNCAN.

"GRAY'S FERRY, May 31st, 1805.

"Yesterday evening I was finishing a hanging-bird in my silent mansion, musing upon a certain affair, when Mr. L. popped his head in at the window, with a letter. I instantly laid down my pencil, and enjoyed a social *crack* with my distant friend; and was heartily and truly pleased with the upshot. In everything relative to this land business, you have acted amidst difficulties and discouragements with prudence and discretion. In refusing to engage with * * * * * you acted well; and I doubt not but you will be equally circumspect in making a transfer of the property, so that the Yankee will not be able, even if he were willing, to take you in. More than half of the roguery of one-half of mankind is owing to the simplicity of the other half. You have my hearty concurrence in the whole affair, for I impatiently wish you beside me, not only to enjoy your society and friendship, but to open to you the book of knowledge, and enable you, in your turn, to teach it to others. In plain language, I wish you to prosecute your studies with me a few months; a school will soon be found, and you can then pursue them without expense, and I trust with pleasure. The business has indeed its cares, but affords leisure for many amusements; and is decent and reputable when properly discharged. I am living in solitude; spending nothing; diligently attending to the duties of the day; and filling up every leisure moment with drawing and music. I have bought no clothes, nor shall I, this summer; therefore if you settle the matter with * * * as you have agreed, we can discharge our obligations to * * * *, and be in a state to go on with your studies for at least six months. Mr. * * * * * was here yesterday, and expressed many acknowledgments for the rapid progress * * * * * is making, for indeed I have exerted myself to pay my obligations to the father by my attentions to the son.

"I wrote you respecting the letter I had from the president. I have never been able to get a sight of the bird he mentions. I hope you will not neglect to bring your gun with you, and look out as you come along.

"I have done no more to the '*Foresters*.' The journey is brought up to my expedition upon the Seneca Lake. I am much in want of notes of the first settlement, and present state, of the different places that we passed, as we went up the Susquehanna; everything of this kind, with hunting anecdotes, &c., I wish you to collect in your way down. The remainder of the poem will, I hope, be superior to what is already written, the scenery and incidents being more interesting; and will extend to at least another fifteen hundred lines,

which will make in all about three thousand.* The notes will swell it to a tolerable size.

"The '*Rural Walk*,' which I published last summer in the Literary Magazine, has been lately republished in the Port Folio,† with many commendations on its beauties. The '*Solitary Tutor*' met with much approbation. But I reserve my best efforts for the remainder of the '*Foresters*.' * *

"I have not mentioned anything of the sale of the land, nor shall I until the business is finally concluded. I shall expect to hear from you at least twice yet before you arrive; and I hope you will make no unnecessary delay in returning. As you cut a pretty ragged appearance at present, and want something to laugh at, suppose you set your muse to work upon your tatterdemalian dishabille. The former neatness of your garb, contrasted with its present squalidness, would make a capital subject for a song, not forgetting the causes. But you are in the dress of the people you live among: you are therefore in character. B. had a hat on when I was up in your quarter, the rim of which had been eaten off, close to his head, by the rats, or, perhaps, cut off to make soles to his shoes; yet it was so common as to escape observation. I saw another fellow, too, at the tavern, who had pieces cut out of his *behind*, like a swallow's tail."

The spring of the year 1805 gave to the enraptured view of our naturalist his interesting feathered acquaintance. He listened to their artless songs; he noticed their habits; he sketched their portraits. And, after having passed a few months varied with this charming occupation, he again writes to the respected inhabitant of the Botanic Garden:

Union School, July 2d, 1805.

"I dare say you will smile at my presumption, when I tell you that I have seriously begun to make a collection of drawings of the birds to be found in Pennsylvania, or that occasionally pass through it: twenty-eight, as a beginning, I send for your opinion. They are, I hope, inferior to what I shall produce, though as close copies of the originals as I could make. One or two of these I cannot find either in your nomenclature, or among the seven volumes of Edwards. I have never been able to find the bird Mr. Jefferson speaks of, and begin to think that it must be the Wood Robin, though it seems strange that he should represent it as so hard to be seen. Any hint for promoting my plan, or enabling me to execute better, I will receive from you with much pleasure. I have resigned every other amusement, except reading and fiddling, for this design, which I shall not give up without making a fair trial.

"Critique these, my dear friend, without fear of offending me—this will instruct, but not discourage me.—For there is not among all our naturalists one who knows so well what they are, and how they ought to be represented. In the meantime accept of my best wishes for your happiness—wishes as sincere as ever one human being breathed for another. To your advice and

* This poem, as published in the "Port Folio," contains two thousand two hundred and eighteen lines. It is illustrated with four plates, two of which were engraved by George Cooke of London.

† For April 27th, 1805.

encouraging encomiums I am indebted for these few specimens, and for all that will follow. *They may yet tell posterity that I was honored with your friendship, and that to your inspiration they owe their existence.*"

The plates illustrative of the natural history of Edwards were etched by the author himself. Wilson had examined them very attentively, and felt assured that, with a little instruction in the art of etching, he could produce more accurate delineations; and would be enabled, by his superior knowledge of coloring, to finish the figures for his contemplated work, in a style not inferior to his spirited and beautiful drawings from nature.

Mr. Lawson was of course consulted on this occasion, and cheerfully contributed his advice and assistance in the novel and difficult enterprise. Wilson procured the copper; and, the former having laid the varnish, and furnished the necessary tools, he eagerly commenced the important operation, on the successful termination of which his happiness seemed to depend.

Let the reader pause and reflect on the extravagance of that enthusiasm, which could lead a person to imagine, that, without any knowledge of an art derived from experience, he could at once produce that effect, which is the result only of years of trial and diligence.

The next day after Wilson had parted from his preceptor, the latter, to use his own words, was surprised to behold him *bouncing* into his room, crying out—" *I have finished my plate! let us bite it in with the aquafortis at once, for I must have a proof before I leave town!*"* Lawson burst into laughter at the ludicrous appearance of his friend, animated with impetuous zeal; and to humor him granted his request. A proof was taken, but fell far short of Wilson's expectations, or of his ideas of correctness. However, he lost no time in conferring with Mr. Bartram, to whom he wrote as follows:

"November 29th, 1805.

"I have been amusing myself this some time in attempting to etch; and now send you a proof sheet of my first performance in this way. Be so good as communicate to me your own corrections, and those of your young friend and pupil. I will receive them as a very kind and particular favor. The drawings which I also send, that you may compare them together, were done from birds in full plumage, and in the best order. My next attempt in etching will perhaps be better, everything being new to me in this. I will send you the first impression I receive after I finish the plate."

In a short time another plate was prepared and completed with the despatch of the former. In fulfilment of his promise to his friend, he transmits a proof, accompanied with the following note:

* For the information of those of our readers who are unacquainted with the process of etching, we subjoin the following explanatory note:—

Upon the polished copper plate, a coat of varnish, of a particular composition, is thinly spread. The design is then traced, and cut through to the copper, with an instrument termed a point. A bank of wax is now raised around the plate, and aquafortis poured into the enclosure, which acid eats into the copper only where the point had passed. The length of time requisite for the successful action of the aquafortis, must be determined by the judgment of the operator.

"Mr. Wilson's affectionate compliments to Mr. Bartram; and sends for his amusement and correction another proof of his *Birds of the United States*. The coloring being chiefly done last night, must soften criticism a little. Will be thankful for my friend's advice and correction.

"Mr. Wilson wishes his beloved friend a happy new year, and every blessing."

"Saturday, January 4th, 1806."

These essays in etching,* though creditable to Wilson's ingenuity and perseverance, yet by no means afforded satisfaction. He became now convinced that the *point* alone was not sufficient to produce the intended effect; and that nothing short of the accuracy of the *graver* would in anywise correspond to his ideas of excellence. But in the art of engraving he had never been instructed; and he could not command means sufficient to cover the expense of the plates even of a single volume, on the magnificent plan which his comprehensive mind had delineated. A proposition was now made to Mr. Lawson to engage in the work, on a joint concern. But there were several objections which this gentleman urged, sufficiently weighty, in his opinion, to warrant his non-acceptance of the offer. Wilson, finding his schemes thus baffled, declared, with solemn emphasis, his resolution of proceeding alone in the publication, if it should even cost him his life. "*I shall at least leave,*" continued he, "*a small beacon to point out where I perished.*"

TO MR. WM. BARTRAM.

"January 27th, 1806.

"Being in town on Saturday, I took the opportunity of calling on Mr. ———, who, in 1804, went down the Ohio, with one companion, in a small batteau. They sometimes proceeded seventy miles in twenty-four hours, going often night and day. They had an awning; and generally slept on board the boat, without ever catching cold, or any inconvenience by mosquitoes, except when in the neighborhood of swamps. He describes the country as exceedingly beautiful. The object of their journey being trade, they had neither gun nor fishing-tackle; and paid little or no attention to natural objects. He says the navigation of a batteau is perfectly easy, and attended with no hazard whatever. One solitary adventurer passed them in a small boat, going from Wheeling to New Orleans.

"If, my dear friend, we should be so happy as to go together, what would you think of laying our design before Mr. Jefferson, with a view to procure his advice, and recommendation to influential characters in the route? Could we procure his approbation and patronage, they would secure our success. Perhaps he might suggest some improvements in our plan. Had we a good companion, intimately acquainted with mineralogy, who would submit to our economical plan of proceeding, it would certainly enhance the value of the expedition. However, this I have no hopes of.

* The two first plates of the *Ornithology* are those which the author etched himself. The writer of this sketch has in his possession a proof of the first one, which he preserves as a relic of no small value. It is inscribed with the author's name.

"I see, by the newspapers, that Mr. Jefferson designs to employ persons to explore the shores of the Mississippi the ensuing summer: surely our exertions would promote his wishes. I write these particulars that you may give them the consideration they deserve; and we call upon you to deliberate further on the affair.

TO THE SAME.

"February 3d, 1806.

"The enclosed sketch of a letter is submitted for your opinion, and, if approved, I must request of you the favor to enclose it in one of your own to Mr. Jefferson. You see I am serious in my design of traversing our southern wildernesses. Disappointed in your company, I have no hopes in another's that would add any value to the Ohio tour. I am therefore driven to this expedient, and I hope it will succeed. Please to let me hear your sentiments on this affair to-morrow morning; and oblige yours, &c."

TO THE SAME.

"February 5th, 1806.

"I am infinitely obliged to you, my dear friend, for your favorable opinion of me, transmitted to the president. Should an engagement be the consequence, I will merit the character which you have given of me, or perish in the endeavor to deserve it. Accept my assurances of perpetual affection and esteem.

"The letters go off to-morrow."

It will be perceived, by the foregoing letters, that the President of the United States had it in contemplation to despatch men of science, for the purpose of exploring the country of the Mississippi. Wilson now conceived that a favorable opportunity would be afforded him of gratifying a desire, which he had long indulged, of visiting those regions, which he was convinced were rich in the various objects of science; and, particularly, where subjects, new and interesting, might be collected for his embryo work on the ornithology of our country. He expressed his wishes to Mr. Bartram, who approved of them; and the latter cheerfully wrote to his correspondent, Mr. Jefferson, stating Wilson's character and acquirements; and recommending him as one highly qualified to be employed in that important national enterprise. This introductory letter, indited in the most respectful terms, was accompanied with an application from Wilson himself, which, as a faithful biographer of my friend, I here think proper to insert entire:

TO HIS EXCELLENCY THOMAS JEFFERSON,

President of the United States.

"SIR:

"Having been engaged, these several years, in collecting materials, and furnishing drawings from nature, with the design of publishing a new Ornithology of the United States of America, so deficient in the works of Catesby, Edwards, and other Europeans, I have traversed the greater part of our northern and eastern districts; and have collected many birds undescribed by

these naturalists. Upwards of one hundred drawings are completed; and two plates in folio already engraved. But as many beautiful tribes frequent the Ohio, and the extensive country through which it passes, that probably never visit the Atlantic states; and as faithful representations of these can be taken only from living Nature, or from birds newly killed; I had planned an expedition down that river, from Pittsburgh to the Mississippi, thence to New Orleans, and to continue my researches by land in return to Philadelphia. I had engaged as a companion and assistant Mr. William Bartram, of this place, whose knowledge of Botany, as well as Zoology, would have enabled me to make the best of the voyage, and to collect many new specimens in both those departments. Sketches of these were to have been taken on the spot; and the subjects put in a state of preservation to finish our drawings from, as time would permit. We intended to set out from Pittsburgh about the beginning of May; and expected to reach New Orleans in September.

"But my venerable friend, Mr. Bartram, taking into more serious consideration his advanced age, being near seventy, and the weakness of his eye-sight; and apprehensive of his inability to encounter the fatigues and deprivations unavoidable in so extensive a tour; having, to my extreme regret, and the real loss of science, been induced to decline the journey; I had reluctantly abandoned the enterprise, and all hopes of accomplishing my purpose; till hearing that your excellency had it in contemplation to send travellers this ensuing summer up the Red River, the Arkansas, and other tributary streams of the Mississippi; and believing that my services might be of advantage to some of these parties in promoting your excellency's design; while the best opportunities would be afforded me of procuring subjects for the work which I have so much at heart; under these impressions I beg leave to offer myself for any of these expeditions; and can be ready at a short notice to attend your excellency's orders.

"Accustomed to the hardships of travelling, without a family, and an enthusiast in the pursuit of Natural History, I will devote my whole powers to merit your excellency's approbation; and ardently wish for an opportunity of testifying the sincerity of my professions, and the deep veneration with which I have the honor to be,

"Sir,

"Your obedient servant,

"ALEX. WILSON.*

"KINGSESS, February 6th, 1806."

Mr. Jefferson had in his port folio decisive proofs of Wilson's talents as an ornithologist, the latter having some time before, as the reader will have observed, transmitted to his excellency some elegant drawings of birds, accompanied with descriptions. Yet, with these evidences before him, backed with the recommendation of a discerning and experienced naturalist, Mr. Jefferson

* Wilson was particularly anxious to accompany Pike, who commenced his journey from the cantonment on the Missouri, for the sources of the Arkansas, &c., on the 15th July, 1806.

was either so scandalized at the informal application of our ornithologist, or so occupied in the great concerns of his exalted station, that no answer was returned to the overture; and the cause of the supposed contemptuous neglect, neither Wilson nor Bartram could ever ascertain.

Whatever might have been the views of the president, who unquestionably bore an effective part in scheming and encouraging the expeditions commanded by Lewis and Clark, and Pike, there can be but one opinion on the insufficiency of that plan of discovery which does not embrace the co-operation of men of letters and science: those whose knowledge will teach them to select what is valuable, and whose learning will enable them to digest it for the advantage of others. We would not draw an invidious comparison between the expeditions above-mentioned, and those under the command of Major Long; but we will rest in the hope that, as the government *now* appears to be sensible of the beneficial effects resulting from a liberal and enlightened policy, it will continue to foster that spirit of enterprise which distinguishes some of our citizens; and which, if properly directed, will redound to the honor and glory of our country.

TO MR. WILLIAM DUNCAN.

“GRAY’S FERRY, February 26th, 1806.

“Notwithstanding the great esteem I have for your judgment, in preference, many times, to my own, yet I believe we are both wrong in the proposed affair of Saturday week. I have not the smallest ambition of being considered an orator; and would it not, by some, be construed into vanity, or something worse, for me to go all the way from this place to deliver a political lecture at Milestown? Politics has begot me so many enemies, both in the old and new world, and has done me so little good, that I begin to think the less you and I harangue on that subject the better. I do not say this from any doubt I have of being able to say something on the subject, but much question the policy and prudence of it. If you and I attend punctually to the duties of our profession, and make our business our pleasure; and the improvement of our pupils, with their good government, our chief aim; honor, and respectability, and success will assuredly attend us, even if we never open our lips on politics.

“These have been some of my reflections since we parted. I hope you will weigh them in your own mind, and acquiesce in my resolution of not interfering in the debate on Saturday, as we talked of. At the same time I am really pleased to see the improvement the practice has produced in you; and would by no means wish to dissuade you from amusing and exercising your mind in this manner; because I know that your moderation in sentiment and conduct will always preserve you from ill will on any of these scores. But as it could add nothing to my fame, and as they have all heard me, often enough, on different subjects, about Milestown; and as it would raise no new friends to you, but might open old sores in some of your present friends, I hope you will agree with me that it will be prudent to decline the affair. And as you have never heard me deliver any of my own compositions in this

way, I will commit a speech to memory which I delivered at Milestown, in the winter of 1800, and pronounce it to you when we are by ourselves in the woods, *where we can offend nobody.*

"I have heard nothing from Washington yet; and I begin to think that either Mr. Jefferson expects a brush with the Spaniards, or has not received our letters; otherwise he would never act so *unpolitely* to one for whom he has so much esteem as for Mr. Bartram. *No hurry of business could excuse it.* But if affairs are not likely to be settled with Spain, very probably the design of sending parties through Louisiana will be suspended. Indeed I begin to think that if I should not be engaged by Mr. Jefferson, a journey by myself, and at my own expense, at a time, too, when we are just getting our heads above water, as one may say, would not be altogether good policy. Perhaps in another year we might be able, without so much injury, to make a tour together, through part of the south-west countries, which would double all the pleasures of the journey to me. I will proceed in the affair as you may think best, notwithstanding my eager wishes, and the disagreeableness of my present situation. I write this letter in the school-house—past ten at night—L.'s folks all gone to roost—the flying squirrels rattling in the loft above me, and the cats squalling in the cellar below. Wishing you a continuation of that success in teaching, which has already done you so much credit, I bid you for the present good-night."

We now approach that era of Wilson's life, in which we behold him emerging from the vale of obscurity, and attaining that enviable distinction, in the republic of science and letters, which it is the lot of but few to enjoy.

Mr. Samuel F. Bradford, bookseller, of Philadelphia, being about to publish an edition of Rees's New Cyclopædia, Wilson was introduced to him as one qualified to superintend the work; and was engaged, at a liberal salary, as assistant editor. The articles of agreement are dated the 20th of April, 1806.

TO MR. WM. BARTRAM.

"PHILADELPHIA, April 22d, 1806.

"My Dear Friend.

"I take the liberty of informing you that having been importuned to engage as assistant editor of that comprehensive and voluminous work, Rees's New Cyclopædia, now publishing here, and a generous salary offered me, I have now accepted of the same, and will commence my new avocation on Monday next.

"This engagement will, I hope, enable me, in more ways than one, to proceed in my intended Ornithology, to which all my leisure moments will be devoted. In the meantime I anticipate, with diffidence, the laborious, and very responsible, situation I am soon to be placed in, requiring a much more general fund of scientific knowledge, and stronger powers of mind, than I am possessed of; but all these objections have been overruled, and I am engaged, in conjunction with Mr. S. F. Bradford, to conduct the publication. In this pursuit I will often solicit your advice, and be happy to communicate your ob-

servations to posterity. Shut up from the sweet scenes of rural nature, so dear to my soul, conceive to yourself the pleasures I shall enjoy in sometimes paying a visit to your charming Retreat, and you cannot doubt of frequently seeing your very sincere friend."

Not long after his engagement, he unfolded his mind to Mr. Bradford on the subject of his projected Ornithology; and exhibited such evidence of his talents for a work of that nature, that the latter promptly agreed to become the publisher of it, and to furnish the requisite funds; and now, for the first time, Wilson found those obstructions removed, which had opposed his favorite enterprise.

TO MR. WILSON, AT THE FALLS OF NIAGARA.

"PHILADELPHIA, July 8th, 1806.

"Dear Sir.

"This will be handed to you by Mr. Michaux, a gentleman of an amiable character, and a distinguished naturalist, who is pursuing his botanical researches through North America, and intends visiting the Cataract of Niagara. The kindness I received from your family in 1804 makes me desirous that my friend, Mr. Michaux, should reside with you during his stay at Niagara; and any attention paid to him will be considered as done to myself, and suitable acknowledgments made in person by me on my arrival at Niagara, which I expect will be early next spring.

"You will be so good as give Mr. Michaux information respecting the late rupture of the rock at the Falls, of the burning spring above, and point out to him the place of descent to the rapids below, with any other information respecting the wonderful scenery around you.

"In the short stay I made, and the unfavorable weather I experienced, I was prevented from finishing my intended sketch equal to my wishes; but I design to spend several weeks with you, and not only take correct drawings, but particular descriptions of everything relating to that stupendous Cataract, and to publish a more complete and satisfactory account, and a better representation of it, than has been yet done in the United States.*

"I had a rough journey home through the Genesee country, which was covered with snow to the depth of fifteen inches, and continued so all the way to Albany. If you know of any gentlemen in your neighborhood acquainted with botany, be so good as introduce Mr. Michaux to them."

TO MR. WM. DUNCAN.

"PHILADELPHIA, April 8th, 1807.

"Enclosed is a proof-sheet of our prospectus; as soon as the impressions are thrown off on fine paper, I will transmit one for Mr. L. This afternoon Mr.

* Wilson's subsequent engagements prevented his return to the Falls, in conformity with his wishes; but his sketches were completed by an artist, engraved by George Cooke of London, and illustrate his poem of the "Foresters," which was published in the *Port Folio*. These well-engraved views, which are two in number, convey a good idea of the famous Cataract; the "Great Pitch," in particular, is admirably represented.

Lawson is to have one of the plates completely finished; and I am going to set the copper-plate printer at work to print each bird in its natural colors, which will be a great advantage in coloring, as the black ink will not then stain the fine tints. We mean to bind in the prospectus at the end of the next half volume, for which purpose twenty-five hundred copies are to be thrown off; and an agent will be appointed in every town in the Union. The prospectus will also be printed in all the newspapers; and everything done to promote the undertaking.

"I hope you have made a beginning, and have already a collection of heads, bills and claws, delineated. If this work should go on, it will be a five years' affair; and may open the way to something more extensive; for which reason I am anxious to have you with me to share the harvest.

"I started this morning, by peep of day, with my gun, for the purpose of shooting a nuthatch. After jumping a hundred fences, and getting over the ankles in mud (for I had put on my shoes for lightness), I found myself almost at the junction of the Schuylkill and Delaware, without success, there being hardly half an acre of woodland in the whole *Neck*; and the nuthatch generally frequents large-timbered woods. I returned home at eight o'clock, after getting completely wet, and in a profuse perspiration, which, contrary to the maxims of the doctors, has done me a great deal of good; and I intend to repeat the dose; except that I shall leave out the ingredient of the wet feet, if otherwise convenient. Were I to prescribe such a remedy to Lawson, he would be ready to think me mad. Moderate, nay even pretty severe exercise, is the best medicine in the world for sedentary people, and ought not to be neglected on any account."

TO MR. WM. BARTRAM.

"PHILADELPHIA, April 29th, 1807.

"My Dear Sir.

"The receipt of yours of the 11th inst., in which you approve of my intended publication of American Ornithology, gave me much satisfaction; and your promise of befriending me in the arduous attempt commands my unfeigned gratitude. From the opportunities I have lately had of examining into the works of Americans who have treated of this part of our natural history, I am satisfied that none of them have bestowed such minute attention on the subject as you yourself have done. Indeed they have done little more than copied your nomenclature and observations, and referred to your authority. To have you, therefore, to consult with in the course of this great publication I consider a most happy and even auspicious circumstance; and I hope you will, on all occasions, be a rigid censor, and kind monitor, whenever you find me deviating from the beauties of nature, or the truth of description.

"The more I read and reflect upon the subject, the more dissatisfied I am with the *specific* names which have been used by almost every writer. A name should, if possible, be expressive of some peculiarity in color, conformation, or habit; if it will equally apply to two different species, it is certainly an improper one. Is *migratorius* an epithet peculiarly applicable to the robin? Is it not equally so to almost every species of *turdus* we have? *Europea* has

been applied by Pennant to our large *sitta* or nuthatch, which is certainly a different species from the European, the latter being destitute of the black head, neck and shoulders of ours. Latham calls it *carolinensis*, but it is as much an inhabitant of Pennsylvania and New York as Carolina. The small red-bellied *sitta* is called *canadensis* by Latham, a name equally objectionable with the other. *Turdus minor* seems also improper; in short I consider this part of the business as peculiarly perplexing; and I beg to have your opinion on the matter, particularly with respect to the birds I have mentioned, whether I shall hazard a new nomenclature, or, by copying, sanction what I do not approve of.

"I hope you are in good health, enjoying in your little paradise the advances of spring, shedding leaves, buds and blossoms, around her; and bringing in her train choirs of the sweetest songsters that earth can boast of; while every zephyr that plays around you breathes fragrance. Ah! how different my situation in this delightful season, immured among musty books, and compelled to forego the harmony of the woods for the everlasting din of the city; the very face of the blessed heavens involved in soot, and interrupted by walls and chimney tops. But if I don't launch out into the fields and woods oftener than I have done these twelve months, may I be transformed into a street musician." (The remainder of the MS. defaced.)

All things being happily arranged, Wilson applied himself to his varied and extensive duties with a diligence which scarcely admitted repose; until finding his health much impaired thereby, he was induced to seek the benefits of relaxation, in a pedestrian journey through a part of Pennsylvania; which afforded him a favorable opportunity of procuring specimens of birds; and some additional information relating to them, of which he was very desirous to be possessed. This excursion was made in the month of August, 1807; and on his return he engaged in his avocations with renewed ardor; devoting every moment which could be spared from his editorial duties to his great work.

At length, in the month of September, 1808, the first volume of the "*American Ornithology*" made its appearance. From the date of the arrangement with the publisher, a prospectus had been issued, wherein the nature and intended execution of the work were specified; but yet no one appeared to entertain an adequate idea of the elegant treat which was about to be afforded to the lovers of the arts, and of useful literature. And when the volume was presented to the public, their delight was only equalled by their astonishment, that our country, as yet in its infancy, should produce an original work in science, that could vie, in its essentials, with the proudest productions of a similar nature of the European world.

TO MR. WM. BARTRAM.

"PHILADELPHIA, September 21st, 1808.

"In a few minutes I set out for the Eastern States, through Boston to Maine, and back through the state of Vermont, in search of birds and subscribers. I regret that I have not been able to spend an evening with you

before my departure. But I shall have a better stock of adventures to relate after my return.

"I send a copy of the prospectus, and my best wishes for the happiness of the whole family. I leave my horse behind, and go by the stage coach, as being the least troublesome. I hope to make some discoveries in my tour, the least agreeable of which will, I fear, be—that I have bestowed a great deal of labor and expense to little purpose. But all these things will not prevent me from enjoying, as I pass along, the glorious face of Nature, and her admirable productions, while I have eyes to see, and taste and judgment to appreciate them."

After despatching the above note, Wilson set out on a journey to the eastward, to exhibit his book, and procure subscribers. He travelled as far as the District of Maine; and returned through Vermont, by the way of Albany, to Philadelphia. From a letter to a friend, dated Boston, October 10th, 1808, we have made the following extract:

"I have purposely avoided saying anything either good or bad, on the encouragement I have met with. I shall only say, that among the many thousands who have examined my book, and among these were men of the first character for taste and literature, I have heard nothing but expressions of the highest admiration and esteem. If I have been mistaken in publishing a work too good for the country, it is a fault not likely to be soon repeated, and will pretty severely correct itself. But whatever may be the result of these matters, I shall not sit down with folded hands, while anything can be done to carry my point: since God helps them who help themselves. I am fixing correspondents in every corner of these northern regions, like so many pickets and outposts, so that scarcely a *wren* or *tit* shall be able to pass along, from York to Canada, but I shall get intelligence of it."

TO MR. D. H. MILLER.

"BOSTON, October 12th, 1808.

"Dear Sir.

"I arrived here on Sunday last, after various adventures, the particulars of which, as well as the observations I have had leisure to make upon the passing scenery around me, I shall endeavor, as far as possible, to compress into this letter, for your own satisfaction, and that of my friends who may be interested for my welfare. My company in the stage-coach to New York were all unknown to me, except Colonel S., who was on his route to Fort Oswego, on Lake Ontario, to take command of the troops intended to be stationed on that part of the frontier, to prevent evasions of the embargo law. The sociable disposition and affability of the Colonel made this part of the journey pass very agreeably, for both being fond of walking, whenever the driver stopped to water, or drink grog, which was generally every six or eight miles, we set out on foot, and sometimes got on several miles before the coach overhauled us. By this method we enjoyed our ride, and with some little saving of horseflesh, which I know you will approve of. At Princeton I bade my fellow-travellers good-by, as I had to wait upon the reverend doctors of the college. I took my book under my arm, put several copies of the prospectus into my pocket,

and walked up to this spacious sanctuary of literature. I could amuse you with some of my reflections on this occasion, but room will not permit. Dr. Smith, the president, and Dr. M'Lean, Professor of Natural History, were the only two I found at home. The latter invited me to tea, and both were much pleased and surprised with the appearance of the work. I expected to receive some valuable information from M'Lean, on the ornithology of the country, but I soon found, to my astonishment, that he scarcely knew a *sparrow* from a *woodpecker*. At his particular request, I left a specimen of the plates with him; and from what passed between us, I have hopes that he will pay more attention to this department of his profession than he has hitherto done. I visited several other literary characters; and, at about half-past eight, the Pilot coming up, I took my passage in it to New Brunswick, which we reached at midnight, and where I immediately went to bed.

"The next morning was spent in visiting the few gentlemen who were likely to patronize my undertaking; I had another task of the same kind at Elizabethtown; and, without tiring you with details that would fill a volume, I shall only say that I reached Newark that day, having gratified the curiosity, and feasted the eyes, of a great number of people, who repaid me with the most extravagant compliments, which I would have very willingly exchanged for a few simple *subscriptions*. I spent nearly the whole of Saturday in Newark, where my book attracted as many starers as a bear or a mammoth would have done; and I arrived in New York the same evening. The next day I wrote a number of letters, enclosing copies of the prospectus, to different gentlemen in town. In the afternoon of Tuesday I took my book, and waited on each of those gentlemen to whom I had written the preceding day. Among these I found some friends, but more admirers. The Professors of Columbia College expressed much esteem for my performance. The professor of languages, being a Scotchman, and also a Wilson, seemed to feel all the pride of national partiality so common to his countrymen; and would have done me any favor in his power. I spent the whole of this week traversing the streets, from one particular house to another, till, I believe, I became almost as well known as the public crier, or the clerk of the market, for I could frequently perceive gentlemen point me out to others as I passed with my book under my arm.

* * * * *

"On Sunday morning, October 2d, I went on board a packet for New Haven, distant about ninety miles. The wind was favorable, and carried us rapidly through Hellgate (a place I had no intention of calling at in my tour), on the other side of which we found upwards of sixty vessels beating up for a passage. The Sound here, between Long Island and the main, is narrowed to less than half a mile, and filled with small islands, and enormous rocks under water, among which the tide roars and boils violently, and has proved fatal to many a seaman. At high water it is nearly as smooth as any other place, and can then be safely passed. The country, on the New York side, is ornamented with handsome villas, painted white, and surrounded by great numbers of Lombardy poplars. The breeze increasing to a gale, in eight hours from the time we set sail the high red-fronted mountain of New Haven rose to our view. In two hours more we landed; and, by the stillness and

solemnity of the streets, recollected we were in New England, and that it was Sunday, which latter circumstance had been almost forgotten on board the packet-boat.

"This town is situated upon a sandy plain; and the streets are shaded with elm trees and poplars. In a large park or common, covered with grass, and crossed by two streets, and several foot-paths, stand the church, the state-house and college buildings, which last are one hundred and eighty yards in front. From these structures rise four or five wooden spires, which, in former time, as one of the professors informed me, were so infested by woodpeckers, which bored them in all directions, that, to preserve their steeples from destruction, it became necessary to set people, with guns, to watch and shoot these invaders of the sanctuary. Just about the town the pasture-fields and corn look well, but a few miles off, the country is poor and ill cultivated.

"The literati of New Haven received me with politeness and respect; and after making my usual rounds, which occupied a day and a half, I set off for Middletown, twenty-two miles distant. The country through which I passed was flat and sandy—in some places whole fields were entirely covered with sand, not a blade of vegetation to be seen, like some parts of New Jersey. Round Middletown, however, the country is really beautiful—the soil rich; and here I first saw the river Connecticut, stretching along the east side of the town, which consists of one very broad street, with rows of elms on each side. On entering I found the street filled with troops, it being muster-day; and I counted two hundred and fifty horse, and six hundred foot, all in uniform. The sides of the street were choked up with wagons, carts and wheel-barrows, filled with bread, roast beef, fowls, cheese, liquors, barrels of cider, and rum bottles. Some were singing out, 'Here's the best brandy you ever put into your head!' others in dozens shouting, 'Here's the round and sound gingerbread! most capital gingerbread!' In one place I observed a row of twenty or thirty country girls, drawn up with their backs to a fence, and two young fellows supplying them with rolls of bread from a neighboring stall, which they ate with a hearty appetite, keeping nearly as good time with their grinders as the militia did with their muskets. In another place the crowd had formed a ring, within which they danced to the catgut scrapings of an old negro. The spectators looked on with as much gravity as if they were listening to a sermon; and the dancers labored with such seriousness, that it seemed more like a penance imposed on the poor devils, for past sins, than mere amusement.

"I waited on a Mr. A. of this town; and by him I was introduced to several others. He also furnished me with a good deal of information respecting the birds of New England. He is a great sportsman—a man of fortune and education—and has a considerable number of stuffed birds, some of which he gave me, besides letters to several gentlemen of influence in Boston. I endeavored to recompense him in the best manner I could, and again pursued my route to the north-east. The country between this and Hartford is extremely beautiful, much resembling that between Philadelphia and Frankford. The road is a hard sandy soil; and in one place I had an immense prospect of the surrounding country, nearly equal to that which we saw returning from Easton,

but less covered with woods. On reaching Hartford, I waited on Mr. G., a member of congress, who recommended me to several others, particularly a Mr. W., a gentleman of taste and fortune, who was extremely obliging. The publisher of a newspaper here expressed the highest admiration of the work, and has since paid many handsome compliments to it in his publication, as three other editors did in New York. This is a species of currency that will neither purchase plates, nor pay the printer; but, nevertheless, it is gratifying to the vanity of an author—*when nothing better can be got*. My journey from Hartford to Boston, through Springfield, Worcester, &c., one hundred and twenty-eight miles, it is impossible for me to detail at this time. From the time I entered Massachusetts, until within ten miles of Boston, which distance is nearly two-thirds the length of the whole state, I took notice that the principal features of the country were stony mountains, rocky pasture-fields, and hills and swamps adorned with pines. The fences, in every direction, are composed of strong stones; and, unless a few straggling, self-planted, stunted apple trees, overgrown with moss, deserve the name, there is hardly an orchard to be seen in ten miles. Every six or eight miles you come to a meeting-house, painted white, with a spire. I could perceive little difference in the form or elevation of their steeples.

“The people here make no distinction between *town* and *township*; and travellers frequently ask the driver of the stage-coach, ‘What town are we now in?’ when perhaps we were upon the top of a miserable barren mountain, several miles from a house. It is in vain to reason with the people on the impropriety of this—custom makes every absurdity proper. There is scarcely any currency in this country but paper, and I solemnly declare that I do not recollect having seen one hard dollar since I left New York. Bills even of twenty-five cents, of a hundred different banks, whose very names one has never heard of before, are continually in circulation. I say nothing of the jargon which prevails in the country. Their boasted schools, if I may judge by the state of their school-houses, are no better than our own.

“Lawyers swarm in every town, like locusts; almost every door has the word *Office* painted over it, which, like the web of a spider, points out the place where the spoiler lurks for his prey. There is little or no improvement in agriculture; in fifty miles I did not observe a single grain or stubble field, though the country has been cleared and settled these one hundred and fifty years. In short, the *steady habits* of a great portion of the inhabitants of those parts of New England through which I passed, seem to be laziness, law bickerings and * * * *. A man here is as much ashamed of being seen walking the streets on Sunday, unless in going and returning from church, as many would be of being seen going to a * * * * *.

“As you approach Boston the country improves in its appearance; the stone fences give place to those of posts and rails; the road becomes wide and spacious; and everything announces a better degree of refinement and civilization. It was dark when I entered Boston, of which I shall give you some account in my next. I have visited the celebrated Bunker’s Hill, and no devout pilgrim ever approached the sacred tomb of his holy prophet with more awful enthusiasm, and profound veneration, than I felt in tracing the grass-grown

entrenchments of this hallowed spot, made immortal by the bravery of those heroes who defended it, whose ashes are now mingled with its soil, and of whom a mean, beggarly *pillar of bricks* is all the memento."

TO MR. D. H. MILLER.

"WINDSOR, Vt., October 26th, 1808.

"Dear Sir

"I wrote you two or three weeks ago from Boston, where I spent about a week. A Mr. S., formerly private secretary to John Adams, introduced me to many of the first rank in the place, whose influence procured me an acquaintance with others; and I journeyed through the streets of Boston with my book, as I did at New York and other places, visiting all the literary characters I could find access to.

"I spent one morning examining Bunker's Hill, accompanied by Lieutenant Miller and Sergeant Carter, two old soldiers of the Revolution, who were both in that celebrated battle, and who pointed out to me a great number of interesting places. The brother of General Warren, who is a respectable physician of Boston, became very much my friend, and related to me many other matters respecting the engagement.

"I visited the University at Cambridge, where there is a fine library, but the most tumultuous set of students I ever saw.

"From the top of Bunker's Hill, Boston, Charlestown, the ocean, islands and adjacent country, form the most beautifully varied prospect I ever beheld.

"The streets of Boston are a perfect labyrinth. The markets are dirty; the fish-market is so filthy that I will not disgust you by a description of it. Wherever you walk you hear the most hideous howling, as if some miserable wretch were expiring on the wheel at every corner; this, however, is nothing but the draymen shouting to their horses. Their drays are twenty-eight feet long, drawn by two horses, and carry ten barrels of flour. From Boston I set out for Salem, the country between swampy, and in some places the most barren, rocky, and desolate in nature. Salem is a neat little town. The wharves were crowded with vessels. One wharf here is twenty hundred and twenty-two feet long. I staid here two days, and again set off for Newburyport, through a rocky, uncultivated, sterile country."

* * * * *

"I travelled on through New Hampshire, stopping at every place where I was likely to do any business; and went as far east as Portland in Maine, where I staid three days, and, the supreme court being then sitting, I had an opportunity of seeing and conversing with people from the remotest boundaries of the United States in this quarter, and received much interesting information from them with regard to the birds that frequent these northern regions. From Portland I directed my course across the country, among dreary savage glens, and mountains covered with pines and hemlocks, amid whose black and half-burnt trunks the everlasting rocks and stones, that cover this country, 'grinned horribly.' One hundred and fifty-seven miles brought me to Dartmouth College, New Hampshire, on the Vermont line. Here I paid my addresses to the reverend fathers of literature, and met with a kind and obliging

reception. Dr. Wheelock, the president, made me eat at his table, and the professors vied with each other to oblige me.

"I expect to be in Albany in five days, and if the legislature be sitting, I shall be detained perhaps three days there. In eight days more I hope to be in Philadelphia. I have labored with the zeal of a knight-errant in exhibiting this book of mine, wherever I went, travelling with it, like a beggar with his bantling, from town to town, and from one country to another. I have been loaded with praises—with compliments and kindnesses—shaken almost to pieces in stage-coaches; have wandered among strangers, hearing the same *Oh's* and *Ah's*, and telling the same story a thousand times over—and for what? Ay, that's it! You are very anxious to know, and you *shall* know the whole when I reach Philadelphia."

TO MR. ALEXANDER LAWSON.

"ALBANY, November 3d, 1808.

"Dear Sir.

"Having a few leisure moments at disposal, I will devote them to your service in giving you a sketch of some circumstances in my long literary pilgrimage, not mentioned in my letters to Mr. Miller. And in the first place, I ought to thank you for the thousands of compliments I have received for my birds, from persons of all descriptions; which were chiefly due to the taste and skill of the engraver. In short, the book, in all its parts, so far exceeds the ideas and expectations of the first literary characters in the eastern section of the United States, as to command their admiration and respect. The only objection has been the sum of *one hundred and twenty dollars*, which, in innumerable instances, has risen like an evil genius between me and my hopes. Yet I doubt not but when those copies subscribed for are delivered, and the book a little better known, the whole number will be disposed of, and perhaps encouragement given to go on with the rest. To effect this, to me, most desirable object, I have encountered the fatigues of a long, circuitous, and expensive journey, with a zeal that has increased with increasing difficulties; and sorry I am to say that the whole number of subscribers which I have obtained amounts only to *forty-one*.

"While in New York I had the curiosity to call on the celebrated author of the 'Rights of Man.' He lives in Greenwich, a short way from the city. In the only decent apartment of a small indifferent-looking frame house, I found this extraordinary man, sitting wrapped in a night-gown, the table before him covered with newspapers, with pen and ink beside him. Paine's face would have excellently suited the character of *Bardolph*; but the penetration and intelligence of his eye bespeak the man of genius, and of the world. He complained to me of his inability to walk, an exercise he was formerly fond of;—he examined my book, leaf by leaf, with great attention—desired me to put down his name as a subscriber; and, after inquiring particularly for Mr. P. and Mr. B., wished to be remembered to both.

"My journey through almost the whole of New England has rather lowered the Yankees in my esteem. Except a few neat academies, I found their

school-houses equally ruinous and deserted with ours—fields covered with stones—stone-fences—scrubby oaks and pine trees—wretched orchards—scarcely one grain-field in twenty miles—the taverns along the road dirty, and filled with loungers, brawling about lawsuits and politics—the people snappish, and extortioners, lazy, and two hundred years behind the Pennsylvanians in agricultural improvements. I traversed the country bordering the river Connecticut for nearly two hundred miles. Mountains rose on either side, sometimes three, six, or eight miles apart, the space between almost altogether alluvial; the plains fertile, but not half-cultivated. From some projecting headlands I had immense prospects of the surrounding countries, everywhere clothed in pine, hemlock, and scrubby oak.

“It was late in the evening when I entered Boston, and, whirling through the narrow, lighted streets, or rather lanes, I could form but a very imperfect idea of the town. Early the next morning, resolved to see where I was, I sought out the way to Beacon Hill, the highest part of the town, and whence you look down on the roofs of the houses—the bay interspersed with islands—the ocean—the surrounding country, and distant mountains of New Hampshire; but the most singular objects are the long wooden bridges, of which there are five or six, some of them three-quarters of a mile long, uniting the towns of Boston and Charlestown with each other, and with the main land. I looked round with an eager eye for that eminence so justly celebrated in the history of the Revolution of the United States, BUNKER’S HILL, but I could see nothing that I could think deserving of the name, till a gentleman, who stood by, pointed out a white monument upon a height beyond Charlestown, which he said was the place. I explored my way thither without paying much attention to other passing objects; and, in tracing the streets of Charlestown, was astonished and hurt at the indifference with which the inhabitants directed me to the place.* I inquired if there were any person still living here who had been in the battle, and I was directed to a Mr. Miller, who was a lieutenant in this memorable affair. He is a man of about sixty—stout,

* We have here a trait of character worthy of note. Wilson’s enthusiasm did not permit him to reflect, that an object which presents uncommon attractions to one who beholds it for the first time, can have no such effect upon the minds of the multitude, accustomed to view it from their infancy; and in whose breasts those chaste and exquisite feelings which result from taste, refined by culture, can have no place:

But what Wilson felt upon this occasion, was that which almost all men of genius and sensibility experience when similarly situated—that divine enthusiasm, which exalts one, as it were, above mortality, and which commands our respect in proportion as the subject of it is estimable or great.

Who has not read, or having read, who can forget, that admirable passage in Johnson’s *Journey to the Hebrides*, wherein the illustrious traveller relates his reflections on his landing upon the island of Icolmkill! “Far from me, and from my friends,” says he, “be such frigid philosophy as may conduct us indifferent and unmoved over any ground which has been dignified by wisdom, bravery, or virtue.” That this frigid philosophy was a stranger to the soul of Wilson, we have his own declaration in evidence; and so little skilled was he in the art of concealing his emotions, that, on any occasion which awakened his sensibility, he would exhibit the impulse of simple nature by weeping like a child.

remarkably fresh-colored, with a benign and manly countenance. I introduced myself without ceremony—shook his hand with sincere cordiality, and said, with some warmth, that I was proud of the honor of meeting with one of the heroes of Bunker's Hill—the first unconquerable champions of their country. He looked at me, pressed my hand in his, and the tears instantly glistened in his eyes, which as instantly called up corresponding ones in my own. In our way to the place he called on a Mr. Carter, who he said was also in the action, and might recollect some circumstances which he had forgotten. With these two veterans I spent three hours, the most interesting to me of any of my life. As they pointed out to me the route of the British—the American intrenchments—the place where the greatest slaughter was made—the spot where Warren fell, and where he was thrown amid heaps of the dead, I felt as though I could have encountered a whole battalion myself in the same glorious cause. The old soldiers were highly delighted with my enthusiasm; we drank a glass of wine to the memory of the illustrious dead, and parted almost with regret.

“From Boston to Portland, in the district of Maine, you are almost always in the neighborhood, or within sight, of the Atlantic. The country may be called a mere skeleton of rocks, and fields of sand, in many places entirely destitute of wood, except a few low scrubby junipers, in others covered with pines of a diminutive growth. On entering the tavern in Portland, I took up the newspaper of the day, in which I found my song of *Freedom and Peace*,* which I afterwards heard read before a numerous company (for the supreme court was sitting), with great emphasis, as a most excellent song; but I said nothing on the subject.

“From Portland I steered across the country for the northern parts of Vermont, among barren, savage, pine-covered mountains, through regions where nature and art have done infinitely less to make it a fit residence for man than any country I ever traversed. Among these dreary tracts I found winter had already commenced, and the snow several inches deep. I called at Dartmouth College, the president of which, as well as of all I visited in New England, subscribed. Though sick with a severe cold, and great fatigue, I continued my route to this place, passing and calling at great numbers of small towns in my way.

“The legislature is at present in session—the newspapers have to-day taken notice of my book, and inserted my advertisement—I shall call on the principal people—employ an agent among some of the booksellers in Albany, and return home by New York.”

Wilson, after tarrying at home a few days, departed to the southward, visiting every city and town of importance as far as Savannah, in the state of Georgia. This journey, being performed in the winter, and alone, was of course not attended with many travelling comforts; and, to avoid the inconveniences of a return by land, he embarked in a vessel, and arrived at New

* A certain military association of Philadelphia, being disposed to dignify the national celebration of this year, offered a gold medal for the best song which should be written for the occasion; and Wilson bore away the prize from many competitors.

York in the month of March, 1809. This was rather an unproductive tour; but few subscriptions being obtained.

TO MR. D. H. MILLER.

“WASHINGTON CITY, December 24th, 1808.

“Dear Sir.

“I sit down, before leaving this place, to give you a few particulars of my expedition. I spent nearly a week in Baltimore, with tolerable success, having procured sixteen subscribers there. In Annapolis I *passed* my book through both houses of the legislature: the wise men of Maryland stared and gaped, from bench to bench; but having never heard of such a thing as one hundred and twenty dollars for a *book*, the *ayes* for subscribing were *none*; and so it was unanimously determined in the *negative*. Nowise discouraged by this *sage* decision, I pursued my route through the tobacco fields, sloughs and swamps, of this illiterate corner of the state, to Washington, distant thirty-eight miles; and in my way opened fifty-five gates. I was forewarned that I should meet with many of these embarrassments, and I opened twenty-two of them with all the patience and philosophy I could muster; but when I still found them coming thicker and faster, my patience and philosophy both abandoned me, and I saluted every new gate (which obliged me to plunge into the mud to open it) with perhaps less Christian resignation than I ought to have done. The negroes there are very numerous, and most wretchedly clad; their whole covering, in many instances, assumes the appearance of neither coat, waistcoat, nor breeches, but a motley mass of coarse, dirty woollen rags, of various colors, gathered up about them. When I stopped at some of the negro huts to inquire the road, both men and women huddled up their filthy bundles of rags around them, with both arms, in order to cover their nakedness, and came out, very civilly, to show me the way.

“I cannot pretend, within the bounds of a letter, to give you a complete description of Washington. It consists of a great extent of confined commons, one-half of which is nearly level, and little higher than the Potomac; the other parts, on which the Capitol and President's house are built, are high and commanding. The site is much better than I expected to find it; and is certainly a noble place for a great metropolis. I saw *one* brick house building, which is the only improvement, of that kind, going on at present. The taverns and boarding-houses here are crowded with an odd assemblage of characters. Fat placemen, expectants, contractors, petitioners, office-hunters, lumber-dealers, salt-manufacturers, and numerous other adventurers. Among the rest are deputations from different Indian nations, along our distant frontiers, who are come hither to receive their last *alms* from the President, previous to his retirement.

“The President received me very kindly. I asked for nobody to introduce me, but merely sent him in a line that I was there; when he ordered me to be immediately admitted. He has given me a letter to a gentleman in Virginia, who is to introduce me to a person there, who, Mr. Jefferson says, has spent his whole life in studying the manners of our birds; and from whom I am to receive a world of facts and observations. The President intended to send for this person himself; and to take down, from his mouth, what he knows on

the subject; thinking it a pity, as he says, that the knowledge he possesses should die with him. But he has intrusted the business to me; and I have promised him an account of our interview.

"All the subscribers I have gleaned here amount to seventeen. I shall set off, on finishing this letter, to Georgetown and Alexandria. I will write you, or some of my friends, from Richmond."

TO MR. D. H. MILLER.

"CHARLESTON, February 22d, 1809.

"Dear Sir.

"I have passed through a considerable extent of country since I wrote you last; and met with a variety of adventures, some of which may perhaps amuse you. Norfolk turned out better than I expected. I left that place on one of the coldest mornings I have experienced since leaving Philadelphia.

* * * * *

"I mentioned to you in my last that the streets of Norfolk were in a most disgraceful state; but I was informed that some time before, they had been much worse; that at one time the news-carrier delivered his papers from a boat, which he poled along through the mire; and that a party of sailors, having nothing better to do, actually launched a ship's long-boat into the streets, rowing along with four oars through the mud, while one stood at the bow, heaving the lead, and singing out the depth.

"I passed through a flat, pine-covered country, from Norfolk to Suffolk, twenty-four miles distant; and lodged, in the way, in the house of a planter, who informed me that every year, in August and September, almost all his family are laid up with the bilious fever; that at one time forty of his people were sick; and that of thirteen children, only three were living. Two of these, with their mother, appeared likely not to be long tenants of this world. Thirty miles farther, I came to a small place on the river Nottaway, called Jerusalem. Here I found the river swelled to such an extraordinary height, that the oldest inhabitant had never seen the like. After passing along the bridge, I was conveyed, in a boat termed a *flat*, a mile and three-quarters through the woods, where the torrent sweeping along in many places rendered this sort of navigation rather disagreeable. I proceeded on my journey, passing through solitary pine woods, perpetually interrupted by swamps, that covered the road with water two and three feet deep, frequently half a mile at a time, looking like a long river or pond. These in the afternoon were surmountable; but the weather being exceedingly severe, they were covered every morning with a sheet of ice, from half an inch to an inch thick, that cut my horse's legs and breast. After passing a bridge, I had many times to wade, and twice to swim my horse, to get to the shore. I attempted to cross the Roanoke at three different ferries, thirty-five miles apart, and at last succeeded at a place about fifteen miles below Halifax. A violent snow storm made the roads still more execrable.

"The productions of these parts of North Carolina are hogs, turpentine, tar, and apple brandy. A tumbler of toddy is usually the morning's beverage of the inhabitants, as soon as they get out of bed. So universal is the practice,

that the first thing you find them engaged in, after rising, is preparing the brandy *toddy*. You can scarcely meet a man whose lips are not parched and chopped or blistered with drinking this poison. Those who do not drink it, they say, are sure of the ague. I, however, escaped. The pine woods have a singular appearance, every tree being stripped, on one or more sides, of the bark, for six or seven feet up. The turpentine covers these parts in thick masses. I saw the people, in different parts of the woods, mounted on benches, chopping down the sides of the trees; leaving a trough or box in the tree for the turpentine to run into. Of hogs they have immense multitudes; one person will sometimes own five hundred. The leaders have bells round their necks; and every drove knows its particular call, whether it be a conch-shell, or the bawling of a negro, though half a mile off. Their owners will sometimes drive them for four or five days to a market, without once feeding them.

"The taverns are the most desolate and beggarly imaginable: bare, bleak, and dirty walls;—one or two old broken chairs, and a bench, form all the furniture. The white females seldom make their appearance; and every thing must be transacted through the medium of negroes. At supper, you sit down to a meal, the very sight of which is sufficient to deaden the most eager appetite; and you are surrounded by half a dozen dirty, half-naked blacks, male and female, whom any man of common scent might smell a quarter of a mile off. The house itself is raised upon props, four or five feet; and the space below is left open for the hogs, with whose charming vocal performance the wearied traveller is serenaded the whole night long, till he is forced to curse the hogs, the house, and everything about it.

"I crossed the river Taw at Washington, for Newbern, which stands upon a sandy plain, between the rivers Trent and Neuse, both of which abound with alligators. Here I found the shad fishery begun, on the 5th instant; and wished to have some of you with me to assist in dissecting some of the finest shad I ever saw. Thence to Wilmington was my next stage, one hundred miles, with only one house for the accommodation of travellers on the road; two landlords having been broken up with the fever.

"The general features of North Carolina, where I crossed it, are immense, solitary, pine savannas, through which the road winds among stagnant ponds, swarming with alligators; dark, sluggish creeks, of the color of brandy, over which are thrown high wooden bridges, without railings, and so crazy and rotten as not only to alarm one's horse, but also the rider, and to make it a matter of thanksgiving with both when they get fairly *over*, without going *through*; enormous cypress swamps, which, to a stranger, have a striking, desolate, and ruinous appearance. Picture to yourself a forest of prodigious trees, rising, as thick as they can grow, from a vast flat and impenetrable morass, covered for ten feet from the ground with reeds. The leafless limbs of the cypresses are clothed with an extraordinary kind of moss (*Tillandsia usneoides*), from two to ten feet long, in such quantities, that fifty men might conceal themselves in one tree. Nothing in this country struck me with such surprise as the prospect of several thousand acres of such timber, loaded, as it were, with many million tons of tow, waving in the wind. I attempted to penetrate several of these swamps, with my gun, in search of something new; but, except

in some chance places, I found it altogether impracticable. I coasted along their borders, however, in many places, and was surprised at the great profusion of evergreens, of numberless sorts; and a variety of berries that I knew nothing of. Here I found multitudes of birds that never winter with us in Pennsylvania, living in abundance. Though the people told me that the alligators are so numerous as to destroy many of their pigs, calves, hogs, &c., yet I have never been enabled to get my eye on one, though I have been several times in search of them with my gun. In Georgia, they tell me, they are ten times more numerous; and I expect some sport among them. I saw a dog at the river Santee, who swims across when he pleases, in defiance of these voracious animals; when he hears them behind him, he wheels round, and attacks them, often seizing them by the snout. They generally retreat, and he pursues his route again, serving every one that attacks him in the same manner.* He belongs to the boatman; and, when left behind, always takes to the water.

"As to the character of the North Carolinians, were I to judge of it by the specimens which I met with in taverns, I should pronounce them to be the most ignorant, debased, indolent and dissipated portion of the union. But I became acquainted with a few such noble exceptions, that, for *their* sakes, I am willing to believe they are all better than they seemed to be.

"Wilmington contains about three thousand souls; and yet there is not one cultivated field within several miles of it. The whole country, on this side of the river, is a mass of sand, into which you sink up to the ankles; and hardly a blade of grass is to be seen. All about is pine barrens. * * * *

"From Wilmington I rode through solitary pine savannas, and cypress swamps, as before; sometimes thirty miles without seeing a hut, or human being. On arriving at the Wackamaw, Pedee, and Black river, I made long zigzags among the rich nabobs, who live on their rice plantations, amidst large villages of negro huts. One of these gentlemen told me that he had "*something better than six hundred head of blacks!*" These excursions detained me greatly. The roads to the plantations were so long, so difficult to find, and so bad, and the hospitality of the planters was such, that I could scarcely get away again. I ought to have told you that the deep sands of South Carolina had so worn out my horse, that, with all my care, I found he would give up. Chance led me to the house of a planter, named V., about forty miles north of the river Wackamaw, where I proposed to bargain with him, and to give up my

* This is an uncommon instance of intrepidity in the canine race, and is worthy of record. It is well known that the alligator is fond of dog-flesh; and the dog appears to be instructed by instinct to avoid so dangerous an enemy, it being difficult to induce him to approach the haunts of the alligator, even when encouraged by the example of his master. A fine stout spaniel accompanied me to East Florida. Being one day engaged in wading through a pond, in pursuit of ducks, with my dog swimming behind me, apparently delighted with his employment, he smelt an alligator: he immediately made to the shore, fled into the forest, and all my endeavors to prevail with him to return were ineffectual. Ever after, when we approached that pond, he exhibited such evidences of apprehension, that I was fain to retire with him, lest his terror should again induce him to flee, where he would have, probably, been lost.

young *blood horse* for another in exchange; giving him at least as good a character as he deserved. *He* asked twenty dollars to boot, and *I* thirty. We parted, but I could perceive that he had taken a liking to my steed; so I went on. He followed me to the seabeach, about three miles, under pretence of pointing out to me the road; and there, on the sands, amidst the roar of the Atlantic, we finally bargained; and I found myself in possession of a large, well formed and elegant sorrel horse, that ran off with me, at a canter, for fifteen miles along the sea shore; and travelled the same day forty-two miles, with nothing but a few mouthfuls of rice straw, which I got from a negro. If you have ever seen the rushes with which carpenters sometimes smooth their work, you may form some idea of the common fare of the South Carolina horses. I found now that I had got a very devil before my chair; the least sound of the whip made him spring half a rod at a leap; no road, however long or heavy, could tame him. Two or three times he had nearly broke my neck, and chair to boot; and at Georgetown ferry he threw one of the boatmen into the river. But he is an excellent traveller, and for that one quality I forgave him all his sins, only keeping a close rein, and a sharp look-out.

* * * *

"I should now give you some account of Charleston, with the streets of which I am as well acquainted as I was with those of New York and Boston; but I reserve that till we meet. I shall only say, that the streets cross each other at right angles—are paved on the sides—have a low bed of sand in the middle; and frequently are in a state fit to compare to those of Norfolk. The town, however, is neat—has a gay appearance—is full of shops; and has a market-place which far surpasses those of Philadelphia for cleanliness, and is an honor to the city. Many of the buildings have two, three, and four ranges of piazzas, one above another, with a great deal of gingerbread work about them. The streets are crowded with negroes; and their quarrels often afford amusement to the passengers. In a street called Broad street, I every day see a crowd of wretchedly clad blacks, huddled in a corner for sale: people handling them as they do black cattle. Here are female chimney sweeps; stalls with roasted sweet-potatoes for sale; and on the wharves clubs of blacks, male and female, sitting round fires, amid heaps of oyster-shells, cooking their victuals—these seem the happiest mortals on earth. The finest groups for a comic painter might every day be found here that any country can produce.

"The ladies of Charleston are dressed with taste; but their pale and languid countenances by no means correspond with their figures. * * * *

"To-morrow afternoon I shall set off for Savannah. I have collected one hundred and twenty-five subscribers since leaving home."

"SAVANNAH, March 5th, 1809.

"Dear Sir.

"I have now reached the *ne plus ultra* of my peregrinations, and shall return home by the first opportunity. Whether this shall be by land or water, depends on circumstances; if the former, I shall go by Augusta, where I am told twelve or fifteen subscribers may be procured. These, however, would

be insufficient to tempt me that way, for I doubt whether my funds would be sufficient to carry me through.

"The innkeepers in the southern states are like the vultures that hover about their cities; and treat their *guests* as the others do their *carrion*: are as glad to see them, and pick them as bare. The last letter I wrote you was on my arrival in Charleston. I found greater difficulties to surmount there than I had thought of. I solicited several people for a list of names, but that abject and disgraceful listlessness and want of energy, which have unnerved the whites of all descriptions in these states, put me off from time to time, till at last I was obliged to walk the streets, and pick out those houses which, from their appearance, indicated wealth and taste in the occupants, and introduce myself. Neither M., Dr. R., nor any other that I applied to, gave me the least assistance, though they promised, and knew I was a stranger. I was going on in this way, when the keeper of the library, a Scotsman, a good man, whose name had been mentioned to me, made me out a list from the directory; and among these I spent ten days. The extreme servility, and superabundance of negroes, have ruined the energy and activity of the white population. M. appears to be fast sinking into the same insipidity of character, with a pretty good sprinkling of rapacity. In Charleston, however, I met with some excellent exceptions, among the first ranks of society; and the work excited universal admiration. Dr. D. introduced it very handsomely into the *Courier*. On hearing of General Wilkinson's arrival, I waited on him. He received me with kindness—said he valued the book highly—and paid me the twelve dollars; on which I took occasion to prognosticate my final success on receiving its *first fruits* from him.

"I will not tire you by a recital of the difficulties which I met with between Charleston and Savannah, by bad roads, and the extraordinary flood of the river Savannah, where I had nearly lost my horse, he having, by his restiveness, thrown himself overboard; and, had I not, at great personal risk, rescued him, he might have floated down to Savannah before me.

"I arrived here on Tuesday last, and advertised in the *Republican*, the editors of which interested themselves considerably for me, speaking of my book in their Thursday's paper with much approbation. The expense of advertising in the southern states is great; but I found it really necessary. I have now seen every person in this place and neighborhood, of use to be seen. Here I close the list of my subscriptions, obtained at a *price* worth more than five times their amount. But, in spite of a host of difficulties, I have gained my point; and should the work be continued in the style it has been begun, I have no doubt but we may increase the copies to four hundred. I have endeavored to find persons of respectability in each town, who will receive and deliver the volumes, without recompense, any further than allowing them to make the first selection. By this means the rapacity of *some* booksellers will be avoided.

"The weather has been extremely warm these ten days, the thermometer stood in the shade on Friday and Saturday last, at 78° and 79°. I have seen no frost since the 5th of February. The few gardens here are as green and luxuriant as ours are in summer—full of flowering shrubbery, and surrounded with groves of orange trees, fifteen and twenty feet high, loaded with fruit

The streets are deep beds of heavy sand, without the accommodation of a foot pavement. I most sincerely hope that I may be able to return home by water; if not, I shall trouble you with one letter more."

TO MR. WILLIAM BARTRAM.

"SAVANNAH, March 5th, 1809.

"Three months, my dear friend, are passed since I parted from you in Kingsess. I have been travelling ever since; and one half of my journey is yet to be performed—but that half is homewards, and through old Neptune's dominions, where I trust I shall not be long detained. This has been the most arduous, expensive, and fatiguing expedition I ever undertook. I have, however, gained my point in procuring two hundred and fifty subscribers, in all, for my Ornithology; and a great mass of information respecting the birds that winter in the southern states, and some that never visit the middle states; and this information I have derived personally, and can therefore the more certainly depend upon it. I have, also, found several new birds, of which I can find no account in Linneus. All these things we will talk over when we meet:

* * * *

"I visited a great number of the rich planters on the rivers Santee and Pedee, and was much struck with the miserable swarms of negroes around them. In these rice plantations, there are great numbers of birds, never supposed to winter so far north, and their tameness surprised me. There are also many here that never visit Pennsylvania. Round Georgetown I also visited several rich planters, all of whom entertained me hospitably. I spent ten days in Charleston, still, in every place where I stopped a day or two, making excursions with my gun.

"On the commons, near Charleston, I presided at a singular feast. The company consisted of two hundred and thirty-seven Carrion Crows- (*Vultur atratus*), five or six dogs, and myself, though I only kept order, and left the eating part entirely to the others. I sat so near to the dead horse, that my feet touched his, and yet at one time I counted thirty-eight vultures on and within him, so that hardly an inch of his flesh could be seen for them. Linneus and others have confounded this Vulture with the Turkey Buzzard, but they are two very distinct species.

"As far north as Wilmington, in North Carolina, I met with the Ivory-billed Woodpecker. I killed two, and winged a male, who alarmed the whole town of Wilmington, screaming exactly like a young child crying violently, so that everybody supposed I had a baby under the apron of my chair, till I took out the bird to prevent the people from stopping me. This bird I confined in the room I was to sleep in, and in less than half an hour he made his way through the plaster, the lath, and partly through the weather boards; and would have escaped, if I had not accidentally come in. The common people confound the *P. principalis* and *P. pileatus* together.

* * * *

"I am utterly at a loss in my wood rambles here, for there are so many trees, shrubs, plants, and insects, that I know nothing of. There are immense quantities of elegant butterflies, and other singular insects. I met with a

grasshopper so big that I took it for a bird; settles upon trees and bushes. I have kept a record of all the birds which I have seen or shot since I left home.

"This journey will be of much use to me, as I have formed acquaintance in almost every place who are able to transmit me information. Great numbers of our summer birds are already here; and many are usually here all winter.

"There is a Mr. Abbot here, who has resided in Georgia thirty-three years, drawing insects and birds. I have been on several excursions with him. He is a very good observer, and paints well. He has published, in London, one large folio volume of the Lepidopterous Insects of Georgia. It is a very splendid work. There is only one vessel here bound to New York; she sails some time next week, and I shall take my passage in her. I caught a fever here by getting wet; I hope the sea air, and sea-sickness, will carry it off."

"SAVANNAH, March 8th, 1809.

"Dear Sir.

"Having now visited all the towns within one hundred miles of the Atlantic, from Maine to Georgia, and done as much for this bantling book of mine as ever author did for any progeny of his brain, I now turn my wishful eye towards home. There is a charm, a melody in this little word *home*, which only those know, who have forsaken it to wander among strangers, exposed to dangers, fatigues, insults and impositions, of a thousand nameless kinds. Perhaps I feel the force of this idea rather more at present than usual, being indisposed with a slight fever these three days, which a dose of sea-sickness will, I hope, rid me of. The weather since my arrival in this place has been extremely warm for the season. The wind generally southwest, and the thermometer ranging between 75 and 82. To me it feels more intolerable than our summer heat in Philadelphia. The streets of Savannah are also mere beds of burning sand, without even a foot pavement; and until one learns to traverse them with both eyes and mouth shut, both are plentifully filled with showers and whirlwinds of sand. I was longer detained in Charleston than I expected, partly on account of the races, which occupied the minds of many I wished to visit, to the exclusion of everything else. At nine they were in bed; at ten breakfasting—dressing at eleven—gone out at noon, and not visible again until ten next morning. I met, however, with some excellent exceptions, among the first ranks of society, and my work excited universal admiration. Dr. D. introduced it very handsomely into the Courier.

"The indolence, want of energy, and dissipation, of the wealthy part of the community in that place, are truly contemptible. The superabundance of negroes in the southern states has destroyed the activity of the whites. The carpenter, bricklayer, and even the blacksmith, stand with their hands in their pockets, overlooking their negroes. The planter orders his servant to tell the overseer to see my horse fed and taken care of; the overseer sends another negro to tell the driver to send one of his hands to do it. Before half of this routine is gone through, I have myself unharnessed, rubbed down, and fed my horse. Everything must be done through the agency of these slovenly blacks. * * * These, however, are not one-tenth of the curses slavery has brought on the southern states. Nothing has surprised me more than the

cold melancholy reserve of the females, of the best families, in South Carolina and Georgia. Old and young, single and married, all have that dull frigid insipidity, and reserve, which is attributed to solitary old maids. Even in their own houses they scarce utter anything to a stranger but yes or no, and one is perpetually puzzled to know whether it proceeds from awkwardness or dislike. Those who have been at some of their balls say that the ladies hardly ever speak or smile, but dance with as much gravity as if they were performing some ceremony of devotion. On the contrary, the negro wenches are all sprightliness and gayety; and if report be not a defamer—(*here there is a hiatus in the manuscript*) which render the men callous to all the finer sensations of love, and female excellence.

“I will not detain you by a recital of my journey from Charleston to Savannah. In crossing the Savannah river, at a place called the Two Sisters’ Ferry, my horse threw himself into the torrent, and had I not, at the risk of my own life, rescued him, would have been drowned.”

Of the first volume of the Ornithology, only two hundred copies had been printed. But it was now thought expedient to strike off a new edition of three hundred more; as the increasing approbation of the public warranted the expectation of corresponding support.

TO MR. WM. BARTRAM.

“PHILADELPHIA, August 4th, 1809.

“The second volume of ‘American Ornithology’ being now nearly ready to go to press, and the plates in considerable forwardness, you will permit me to trespass on your time, for a few moments, by inquiring if you have anything interesting to add to the history of the following birds, the figures of which will be found in this volume.

* * * * * *

“I have myself already said everything of the foregoing that my own observations suggested, or that I have been enabled to collect from those on whom I could rely. As it has fallen to my lot to be the biographer of the feathered tribes of the United States, I am solicitous to do full justice to every species; and I would not conceal one good quality that any one of them possesses. I have paid particular attention to the mocking-bird, humming-bird, king-bird and cat-bird; all the principal traits in their character I have delineated at full. If you have anything to add on either of them, I wish you would communicate it in the form of a letter, addressed particularly to me. Your favorable opinion of my work (if such you have) would, if publicly known, be of infinite service to me, and procure me many friends.*

* This instance of Wilson’s diffidence of his own talents and acquirements is too remarkable to be passed over without a note. He seemed to fear lest the intrinsic merit of his work should not be sufficient, of itself, to get it into notice; and therefore he solicited the favorable opinion of one, to whose judgment in these matters, he felt assured, the public paid a deference. Contrasted with this modest deportment, how contemptible is the vanity, and self-conceit, of those writers, who, whether they compose a superficial essay,

"I assure you, my dear friend, that this undertaking has involved me in many difficulties and expenses which I never dreamt of;* and I have never yet received one cent from it. I am, therefore, a volunteer in the cause of Natural History, impelled by nobler views than those of money. The second volume will be ready for delivery on the first of January next. I have received communications from many different parts of the United States; with some drawings, and offers of more. But these are rarely executed with such precision as is necessary for a work of this kind.

"Let me know if you have ever seen the nest of Catesby's *cowpen-bird*. I have every reason to believe that this bird never builds itself a nest, but, like the cuckoo of Europe, drops its eggs into the nests of other birds; and leaves the result to their mercy and management. I have found no less than six nests this season, with each a young cow-bird contained in it. One of these, which I had found in the nest of the Maryland yellow-throat, and which occupied the whole nest, I brought home, and put it into the cage of a crested red-bird, who became its foster-father, and fed, and reared it, with great affection. It begins to chant a little.

"I have just heard from our old friend M* *. He has not yet published the first number of his work; and Bonaparte has been so busy with cutting throats, and building bridges, in the forests of Austria, that the *Inspector of the Forests of France* has not yet received his appointment."

TO MR. WM. BARTRAM.

"October 11th, 1809.

"Thanks for your bird, so neatly stuffed, that I was just about to skin it. It is the *Rallus virginianus* of Turton, and agrees exactly with his description. The one in company was probably the female. Turton mentions four species as inhabitants of the United States. I myself have seen six. Mr. Abbot of Savannah showed me two new species. I found the *sora*, as the Virginians call it, in the rice flats near Savannah, in March. General Wilkinson told me that the *sora* was in multitudes at Detroit. Query—don't you think they breed in the north, like the rice-birds? Are not the European naturalists mistaken in saying that the reed-birds or rice-birds pass *from* the island of Cuba, in September, to Carolina? All the Spaniards with whom I have con-

for the transactions of a learned society, or compile a bald and meagre pamphlet, present themselves before the public with an air of importance, which should seem to demand that countenance and applause, as a matter of right, which true merit humbly requests as a favor!

* The great expense of the publication prevented the author from giving all his plates that finish which his taste and judgment would have approved; but that in some instances extraordinary pains were bestowed upon them, a cursory glance will render evident. I have Mr. Lawson's authority for asserting, that, so anxious was he to encourage his friend, frequently after computing the time spent upon perfecting his work, he found his reward did not amount to more than *fifty cents* per day.

From a note to this gentleman, I make the following extract, relating to the bald eagle:

"I hope you go on courageously with the eagle; let no expense deter you from giving it the freest and most masterly touches of your graver. I think we shall be able to offer it as a competitor with the best that this country or Europe can produce."

versed, say that these birds are seen in Cuba, early in the spring only, and again in October. And the people of the district of Maine, of all the New England states, and those who have lived on the river Illinois, declare that these birds breed there in vast numbers.

"I have many times been told that our small snow-bird (*fringilla hudsonia*) breeds in the Great Swamp, which I can hardly believe. When I was in Williamsburg, Virginia, Bishop Madison told me of a mountain, in the interior of that state, where they bred in multitudes. I have lately had the most positive assurances from a gentleman who lived on the ranges of the Alleghany, about two hundred and fifty miles distant, that he saw them there four months ago; and that they built their nests almost everywhere among the long grass. He said he took particular notice of them, as he had heard it said down here, that they changed to chipping-sparrows in summer. What think you of these matters?"

TO MR. WM. BARTRAM.

"PHILADELPHIA, November 11th, 1809.

"Dear Sir.

"Since I parted from you yesterday evening, I have ruminated a great deal on my proposed journey; I have considered the advantages and disadvantages of the three modes of proceeding: on horseback—in the stage-coach, and on foot. Taking everything into view, I have at length determined to adopt the last, as being the cheapest, the best adapted for examining the country we pass through; the most favorable to health; and, in short, except for its fatigues, the best mode for a scientific traveller or naturalist, in every point of view. I have also thought that by this determination I will be so happy as to secure your company, for which I would willingly sustain as much hardship, and as many deprivations, as I am able to bear.

"If this determination should meet your approbation, and if you are willing to encounter the hardships of such a pedestrian journey, let me know as soon as is convenient. I think one dollar a day, each, will be fully sufficient for our expenses, by a strict regard, at all times, to economy."

The second volume of the Ornithology was published in January, 1810; and Wilson set out for Pittsburgh, the latter part of the same month, in his route to New Orleans. I trust that no apology is necessary for introducing the following letters, addressed to Mr. Lawson, into these memoirs, notwithstanding three of them are well known to the public, having originally appeared in the *Port Folio*.*

TO MR. ALEXANDER LAWSON.

"PITTSBURGH, February 22d, 1810.

"Dear Sir.

"From this *first* stage of my Ornithological pilgrimage, I sit down, with pleasure, to give you some account of my adventures since we parted. On arriving at Lancaster, I waited on the governor, secretary of state, and such other great folks as were likely to be useful to me. The governor received me

* New Series, vols. III., 499, IV., 310, VII., 34.

with civility, passed some good-natured compliments on the volumes, and readily added his name to my list. He seems an active man, of plain good sense and little ceremony. By Mr. L. I was introduced to many members of both houses, but I found them, in general, such a pitiful, squabbling, political mob; so split up, and justling about the mere formalities of legislation, without knowing anything of its realities, that I abandoned them in disgust. I must, however, except from this censure a few intelligent individuals, friends to science, and possessed of taste, who treated me with great kindness. On Friday evening I set out for Columbia, where I spent one day in vain. I crossed the Susquehanna on Sunday forenoon, with some difficulty, having to cut our way through the ice for several hundred yards; and passing on to York, paid my respects to all the literati of that place without success. Five miles north of this town lives a very extraordinary character, between eighty and ninety years of age, who has lived by trapping birds and quadrupeds these thirty years. Dr. F. carried me out in a sleigh to see him, and presented me with a tolerably good full length figure of him; he has also promised to transmit to me such a collection of facts relative to this singular original, as will enable me to draw up an interesting narrative of him for the Port Folio. I carried him half a pound of snuff, of which he is insatiably fond, taking it by handfuls. I was much diverted with the astonishment he expressed on looking at the plates of my work—he could tell me anecdotes of the greater part of the subjects of the first volume, and some of the second. One of his traps, which he says he invented himself, is remarkable for ingenuity, and extremely simple. Having a letter from Dr. Muhlenberg to a clergyman in Hanover, I passed on through a well cultivated country, chiefly inhabited by Germans, to that place, where a certain judge took upon himself to say, that such a book as mine *ought not to be encouraged, as it was not within the reach of the commonality; and therefore inconsistent with our republican institutions!* By the same mode of reasoning, which I did not dispute, I undertook to prove him a greater culprit than myself, in erecting a large, elegant, three-story brick house, so much beyond the reach of the *commonality*, as he called them, and consequently grossly contrary to our republican institutions. I harangued this Solomon of the Bench more seriously afterwards, pointing out to him the great influence of science on a young rising nation like ours, and particularly the science of Natural History, till he began to show such symptoms of *intellect*, as to seem ashamed of what he had said.

“From Hanover I passed through a thinly inhabited country; and crossing the North Mountain, at a pass called Newman’s Gap, arrived at Chambersburg, whence I next morning returned to Carlisle, to visit the reverend doctors of the college. * * * *

“The towns of Chambersburg and Shippensburg produced me nothing. On Sunday, the 11th, I left the former of these places in the stage-coach; and in fifteen miles began to ascend the Alpine regions of the Alleghany mountains, where above, around, and below us, nothing appeared but prodigious declivities, covered with woods; and, the weather being fine, such a profound silence prevailed among these aerial solitudes, as impressed the soul with awe, and a kind of fearful sublimity. Something of this arose from my being alone, hav

ing left the coach several miles below. These high ranges continued for more than one hundred miles to Greensburg, thirty-two miles from Pittsburgh; thence the country is nothing but an assemblage of steep hills, and deep valleys, descending rapidly till you reach within seven miles of this place, where I arrived on the 15th instant. We were within two miles of Pittsburgh, when suddenly the road descends a long and very steep hill, where the Alleghany river is seen at hand, on the right, stretching along a rich bottom, and bounded by a high ridge of hills on the west. After following this road, parallel with the river, and about a quarter of a mile from it, through a rich low valley, a cloud of black smoke, at its extremity, announced the town of Pittsburgh. On arriving at the town, which stands on a low flat, and looks like a collection of blacksmith's shops, glasshouses, breweries, forges and furnaces, the Monongahela opened to the view, on the left, running along the bottom of a range of hills so high that the sun, at this season, sets to the town of Pittsburgh at a little past four: this range continues along the Ohio as far as the view reaches. The ice had just begun to give way in the Monongahela, and came down in vast bodies for the three following days. It has now begun in the Alleghany, and, at the moment I write, the river presents a white mass of rushing ice.

"The country beyond the Ohio, to the west, appears a mountainous and hilly region. The Monongahela is lined with arks, usually called Kentucky-boats, waiting for the rising of the river, and the absence of the ice, to descend. A perspective view of the town of Pittsburgh at this season, with the numerous arks and covered keel-boats preparing to descend the Ohio; its hills, its great rivers—the pillars of smoke rising from its furnaces and glass-works—would make a noble picture. I began a very diligent search in this place, the day after my arrival, for subscribers, and continued it for four days. I succeeded beyond expectation, having got nineteen names of the most wealthy and respectable part of the inhabitants. The industry of Pittsburgh is remarkable; everybody you see is busy; and as a proof of the prosperity of the place, an eminent lawyer told me that there has not been one suit instituted against a merchant of the town these three years.

* * * * *

"Gentlemen here assure me that the road to Chillicothe is impassable on foot by reason of the freshets. I have therefore resolved to navigate myself a small skiff, which I have bought, and named the ORNITHOLOGIST, down to Cincinnati, a distance of five hundred and twenty-eight miles; intending to visit five or six towns that lie in my way. From Cincinnati I will cross over to the opposite shore, and, abandoning my boat, make my way to Lexington, where I expect to be ere your letter can reach that place. Were I to go by Chillicothe, I should miss five towns, as large as it. Some say that I ought not to attempt going down by myself—others think I may. I am determined to make the experiment, the expense of hiring a rower being considerable. As soon as the ice clears out of the Alleghany, and the weather will permit, I shall shove off, having everything in readiness. I have ransacked the woods and fields here without finding a single bird new to me, or indeed anything but a few snow-birds and sparrows. I expect to have something interesting to communicate in my next.

* * * * *

"My friends will please accept through you my best wishes and kindest respects; and I regret that while the grand spectacle of mountains, regions of expanded forests, glittering towns, and noble rivers, are passing in rapid succession before my delighted view, they are not beside me to enjoy the varying scenery; but as far as my pen will enable me, I will freely share it with them, and remember *them* affectionately until I forget *myself*."

"February 23d. My baggage is on board—I have just to despatch this and set off. The weather is fine, and I have no doubt of piloting my skiff in safety to Cincinnati. Farewell! God bless you!"

TO MR. ALEXANDER LAWSON.

"LEXINGTON, April 4th, 1810.

"My Dear Sir.

"Having now reached the *second* stage of my bird-catching expedition, I willingly sit down to give you some account of my adventures and remarks since leaving Pittsburgh; by the aid of a good map, and your usual stock of patience, you will be able to listen to my story, and trace all my wanderings. Though generally dissuaded from venturing by myself on so long a voyage down the Ohio, in an open skiff, I considered this mode, with all its inconveniences, as the most favorable to my researches, and the most suitable to my funds, and I determined accordingly. Two days before my departure, the Alleghany river was one wide torrent of broken ice, and I calculated on experiencing considerable difficulties on this score. My stock of provisions consisted of some biscuit and cheese, and a bottle of cordial presented me by a gentleman of Pittsburgh; my gun, trunk, and great-coat, occupied one end of the boat; I had a small tin occasionally to bale her, and to take my beverage from the Ohio with; and, bidding adieu to the smoky confines of Pitt, I launched into the stream, and soon winded away among the hills that everywhere enclose this noble river. The weather was warm and serene, and the river like a mirror, except where floating masses of ice spotted its surface, and which required some care to steer clear of; but these, to my surprise, in less than a day's sailing, totally disappeared. Far from being concerned at my new situation, I felt my heart expand with joy at the novelties which surrounded me; I listened with pleasure to the whistling of the Red-bird on the banks as I passed, and contemplated the forest scenery as it receded, with increasing delight. The smoke of the numerous sugar camps, rising lazily among the mountains, gave great effect to the varying landscape; and the grotesque log cabins, that here and there opened from the woods, were diminished into mere dog-houses by the sublimity of the impending mountains. If you suppose to yourself two parallel ranges of forest-covered hills, whose irregular summits are seldom more than three or four miles apart, winding through an immense extent of country, and enclosing a river half a mile wide, which alternately washes the steep declivity on one side, and laves a rich, flat, forest-clad bottom on the other, of a mile or so in breadth, you will have a pretty correct idea of the appearance of the Ohio. The banks of these rich flats are from twenty to sixty and eighty feet high, and even these last were within a few feet of being overflowed in December, 1808.

"I now stripped, with alacrity, to my new avocation. The current went about two and a half miles an hour, and I added about three and a half miles more to the boat's way with my oars. In the course of the day I passed a number of arks, or, as they are usually called, Kentucky boats, loaded with what it must be acknowledged are the most valuable commodities of a country; viz., men, women and children, horses and ploughs, flour, millstones, &c. Several of these floating caravans were loaded with store goods for the supply of the settlements through which they passed, having a counter erected, shawls, muslins, &c., displayed, and everything ready for transacting business. On approaching a settlement they blow a horn or tin trumpet, which announces to the inhabitants their arrival. I boarded many of these arks, and felt much interested at the sight of so many human beings, migrating like birds of passage to the luxuriant regions of the south and west. The arks are built in the form of a parallelogram, being from twelve to fourteen feet wide, and from forty to seventy feet long, covered above, rowed only occasionally by two oars before, and steered by a long and powerful one fixed above, as in the annexed sketch.

Ark.

*Barge for passing up stream.*

"The barges are taken up along shore by setting poles, at the rate of twenty miles or so a day; the arks cost about one hundred and fifty cents per foot, according to their length; and when they reach their places of destination, seldom bring more than one-sixth their original cost. These arks descend from all parts of the Ohio and its tributary streams, the Alleghany, Monongahela, Muskingum, Sciota, Miami, Kentucky, Wabash, &c., in the months of March, April, and May particularly, with goods, produce, and emigrants, the two former for markets along the river, or at New Orleans; the latter for various parts of Kentucky, Ohio, and the Indiana Territory. I now return to my own expedition. I rowed twenty odd miles the first spell, and found I should be able to stand it perfectly well. About an hour after night I put up at a miserable cabin, fifty-two miles from Pittsburgh, where I slept on what I supposed to be corn-stalks, or something worse; so, preferring the smooth bosom of the Ohio to this *brush heap*, I got up long before day, and, being under no apprehension of losing my way, I again pushed out into the stream. The landscape on each side lay in one mass of shade, but the grandeur of the projecting headlands and vanishing points, or lines, was charmingly reflected in the smooth glassy surface below. I could only discover when I was passing a clearing, by the crowing of cocks; and now and then, in more solitary places,

the big-horned owl made a most hideous hallooing, that echoed among the mountains. In this lonesome manner, with full leisure for observation and reflection, exposed to hardships all day, and hard berths all night, to storms of rain, hail, and snow, for it froze severely almost every night, I persevered, from the 24th of February to Sunday evening, March 17th, when I moored my skiff safely in Bear-Grass Creek, at the Rapids of the Ohio, after a voyage of seven hundred and twenty miles. My hands suffered the most; and it will be some weeks yet before they recover their former feeling and flexibility.

"It would be the task of a month to detail all the particulars of my numerous excursions, in every direction from the river. In Steubenville, Charlestown and Wheeling, I found some friends. At Marietta I visited the celebrated remains of Indian fortifications, as they are improperly called, which cover a large space of ground on the banks of the Muskingum. Seventy miles above this, at a place called Big-Grave Creek, I examined some extraordinary remains of the same kind there. The big grave is three hundred paces round at the base, seventy feet perpendicular, and the top, which is about fifty feet over, has sunk *in*, forming a regular concavity, three or four feet deep. This tumulus is in the form of a cone, and the whole, as well as its immediate neighborhood, is covered with a venerable growth of forest, four or five hundred years old, which gives it a most singular appearance. In clambering around its steep sides, I found a place where a large white-oak had been lately blown down, and had torn up the earth to the depth of five or six feet. In this place I commenced digging, and continued to labor for about an hour, examining every handful of earth with great care, but except some shreds of earthen ware, made of a coarse kind of gritty clay, and considerable pieces of charcoal, I found nothing else; but a person of the neighborhood presented me with some beads, fashioned out of a kind of white stone, which were found in digging on the opposite side of this gigantic mound, where I found the hole still remaining. The whole of an extensive plain a short distance from this is marked out with squares, oblongs and circles, one of which comprehends several acres. The embankments by which they are distinguished are still two or three feet above the common level of the field. The Big Grave is the property of a Mr. Tomlinson, or Tumblestone, who lives near, and who would not expend three cents to see the whole sifted before his face. I endeavored to work on his avarice, by representing the probability that it might contain valuable matters, and suggested to him a mode by which a passage might be cut into it level with the bottom, and by excavation and arching, a most noble cellar might be formed for keeping his turnips and potatoes. "All the turnips and potatoes I shall raise this dozen years," said he, "would not pay the expense." This man is no antiquary, or theoretical farmer, nor much of a practical one either I fear; he has about two thousand acres of the best land, and just makes out to live. Near the head of what is called the Long Reach, I called on a certain Michael Cressap, son to the noted Colonel Cressap, mentioned in Jefferson's Notes on Virginia. From him I received the head of a Paddle fish, the largest ever seen in the Ohio, which I am keeping for Mr. Peale, with various other curiosities. I took the liberty of asking whether Logan's accusation of his father having killed *all* his family, had any truth in it; but he

replied that it had not. Logan, he said, had been misinformed; he detailed to me all the particulars, which are too long for repetition, and concluded by informing me that his father died early in the revolutionary war, of the camp fever, near New York.

"Marietta stands on a swampy plain, which has evidently once been the ancient bed of the Muskingum, and is still occasionally inundated to the depth of five or six feet. A Mr. Putnam, son to the old general of Bunker's Hill memory, and Mr. Gillman and Mr. Fearing, are making great exertions here, in introducing and multiplying the race of merinos. The two latter gentlemen are about establishing works by steam, for carding and spinning wool, and intend to carry on the manufacture of broadcloth extensively. Mr. Gillman is a gentleman of taste and wealth, and has no doubts of succeeding. Something is necessary to give animation to this place, for since the building of ships has been abandoned here, the place seems on the decline.

"The current of the Muskingum is very rapid, and the ferry boat is navigated across in the following manner. A strong cable is extended from bank to bank, forty or fifty feet above the surface of the river, and fastened tight at each end. On this cable are two loose running blocks; one rope from the bow of the boat is fastened to the first of these blocks, and another from the after part of the boat to the second block, and by lengthening this last a diagonal direction is give to the boat's head, a little up stream, and the current striking forcibly and obliquely on her aft, she is hurried forward with amazing velocity without any manual labor whatever. I passed Blannerhasset's island after night, but the people were burning brush, and by the light I had a distinct view of the mansion house, which is but a plain frame of no great dimensions. It is now the property of a Mr. Miller from Lexington, who intends laying it chiefly in hemp. It is nearly three miles long, and contains about three hundred acres, half of which is in cultivation; but like all the rest of the numerous islands of the Ohio, is subject to inundations. At Gallipolis, which stands upon a high plain, and contains forty or fifty scattered houses, I found the fields well fenced and well cultivated, peach and apple orchards numerous, and a considerable appearance of industry. One-half of the original French settlers have removed to a tract of land opposite to the mouth of Sandy river. This town has one shop and two taverns; the mountains press in to within a short distance of the town. I found here another Indian mound planted with peach trees. On Monday, March 5th, about ten miles below the mouth of the great Sciota, where I saw the first flock of paroquets, I encountered a violent storm of wind and rain, which changed to hail and snow, blowing down trees and limbs in all directions; so that for immediate preservation I was obliged to steer out into the river, which rolled and foamed like a sea, and filled my boat nearly half full of water; and it was with the greatest difficulty I could make the least headway. It continued to snow violently until dusk, when I at length made good my landing at a place on the Kentucky shore, where I had perceived a cabin; and here I spent the evening in learning the art and mystery of bear-treeing, wolf-trapping, and wild-cat hunting, from an old professor. But notwithstanding the skill of this great master, the country here is swarming with wolves and wild-cats, black and brown; accord-

ing to this hunter's own confession he had lost sixty pigs since Christmas last ; and all night long the distant howling of the wolves kept the dogs in a perpetual uproar of barking. This man was one of those people called squatters, who neither pay rent nor own land, but keep roving on the frontiers, advancing as the tide of civilized population approaches. They are the immediate successors of the savages, and far below them in good sense and good manners, as well as comfortable accommodations. An engraved representation of one of their cabins would form a striking embellishment to the pages of the *Port Folio*, as a specimen of the *first order of American Architecture*.

"Nothing adds more to the savage grandeur, and picturesque effect, of the scenery along the Ohio, than these miserable huts of human beings, lurking at the bottom of a gigantic growth of timber, that I have not seen equalled in any other part of the United States. And it is truly amusing to observe how dear and how familiar habit has rendered those privations, which must have been first the offspring of necessity. Yet none pride themselves more on their possessions. The inhabitants of these forlorn sheds will talk to you with pride of the richness of their soil, of the excellence and abundance of their country, of the healthiness of their climate, and the purity of their waters ; while the only bread you find among them is of Indian corn, coarsely ground in a horse-mill, with half of the grains unbroken ; even their cattle are destitute of stables and hay, and look like moving skeletons ; their own houses worse than pig-sties ; their clothes an assemblage of rags ; their faces yellow, and lank with disease ; and their persons covered with filth, and frequently garnished with the humors of the Scotch fiddle ; from which dreadful disease, by the mercy of God, I have been most miraculously preserved. All this is the effect of laziness. The corn is thrown into the ground in the spring, and the pigs turned into the woods, where they multiply like rabbits. The labor of the squatter is now over till autumn, and he spends the winter in eating pork, cabbage and hoe-cakes. What a contrast to the neat farm, and snug, cleanly habitation, of the industrious settler, that opens his green fields, his stately barns, gardens and orchards, to the gladdened eye of the delighted stranger !

"At a place called Salt Lick, I went ashore to see the salt works, and to learn whether the people had found any further remains of an animal of the ox kind, one of whose horns, of a prodigious size, was discovered here some years ago, and is in the possession of Mr. Peale. They make here about one thousand bushels weekly, which sells at one dollar and seventy-five cents per bushel. The wells are from thirty to fifty feet deep, but nothing curious has lately been dug up. I landed at Maysville, or Limestone, where a considerable deal of business is done in importation for the interior of Kentucky. It stands on a high narrow plain between the mountains and the river, which is fast devouring the bank, and encroaching on the town ; part of the front street is gone already, and unless some effectual means are soon taken, the whole must go by piecemeal. This town contains about one hundred houses, chiefly log and frames. From this place I set out on foot for Washington. On the road, at the height of several hundred feet above the present surface of the river, I found prodigious quantities of petrified shells, of the small cockle and fan-shaped kind, but whether marine remains or not am uncertain. I have since

found these petrified concretions of shells universal all over Kentucky, wherever I have been. The rocks look as if one had collected heaps of broken shells, and wrought them up among clay, then hardened it into stone. These rocks lie universally in horizontal strata. A farmer in the neighborhood of Washington assured me, that from seven acres he reaped at once eight thousand weight of excellent hemp, fit for market.

"Amidst very tempestuous weather, I reached the town of Cincinnati, which does honor to the name of the old Roman, and is the neatest and handsomest situated place I have seen since I left Philadelphia. You must know that during an unknown series of ages, the river Ohio has gradually sunk several hundred feet below its former bed, and has left on both sides, occasionally, what are called the first or nearest, and the second or next, high bank, the latter of which is never overflowed.

"The town of Cincinnati occupies two beautiful plains, one on the first, and the other on the second bank, and contains upwards of five hundred houses, the greater proportion of which are of brick. One block house is all that remains of Fort Washington. The river Licking comes in from the opposite shore, where the town of Newport, of forty or fifty houses, and a large arsenal and barracks are lately erected. Here I met with Judge Turner, a man of extraordinary talents, well known to the *literati* of Philadelphia. He exerted himself in my behalf with all the ardor of an old friend. A large Indian mound in the vicinity of this town has been lately opened by Doctor Drake, who showed me the collection of curiosities which he had found in that and others. In the centre of this mound he also found a large fragment of earthen ware, such as I found at the Big Grave, which is a pretty strong proof that these works had been erected by a people, if not the same, differing little from the present race of Indians, whose fragments of earthen ware, dug up about their late towns, correspond exactly with these. Twenty miles below this I passed the mouth of the Great Miami, which rushes in from the north, and is a large and stately river, preserving its pure waters uncontaminated for many miles with those of the Ohio, each keeping their respective sides of the channel. I rambled up the banks of this river for four or five miles, and in my return shot a turkey. I also saw five or six deer in a drove, but they were too light-heeled for me.

"In the afternoon of the 15th I entered Big-Bone Creek, which being passable only about a quarter of a mile, I secured my boat, and left my baggage under the care of a decent family near, and set out on foot five miles through the woods for the Big-Bone Lick, that great antediluvian rendezvous of the American elephants. This place, which lies "far in the windings of a sheltered vale," afforded me a fund of amusement in shooting ducks and paroquets (of which last I skinned twelve, and brought off two slightly wounded), and in examining the ancient buffalo roads to this great licking-place. Mr. Colquhoun, the proprietor, was not at home, but his agent and manager entertained me as well as he was able, and was much amused with my enthusiasm. This place is a low valley, everywhere surrounded by high hills; in the centre, by the side of the creek, is a quagmire of near an acre, from which, and another smaller one below, the chief part of these large bones have been taken; at

the latter places I found numerous fragments of large bones lying scattered about. In pursuing a wounded duck across this quagmire, I had nearly deposited my carcass among the grand congregation of mammoths below, having sunk up to the middle, and had hard struggling to get out. As the proprietor intends to dig in various places this season for brine, and is a gentleman of education and intelligence, I have strong hopes that a more complete skeleton of that animal called the mammoth, than has yet been found, will be procured. I laid the strongest injunctions on the manager to be on the lookout, and to preserve everything; I also left a letter for Mr. Colquhoun to the same purport, and am persuaded that these will not be neglected. In this neighborhood I found the Columbo plant in great abundance, and collected some of the seeds. Many of the old stalks were more than five feet high. I have since found it in various other parts of this country.

"In the afternoon of the next day I returned to my boat, replaced my baggage, and rowed twenty miles to the Swiss settlement, where I spent the night. These hardy and industrious people have now twelve acres closely and cleanly planted with vines from the Cape of Good Hope. They last year made seven hundred gallons of wine, and expect to make three times as much the ensuing season. Their houses are neat and comfortable, they have orchards of peach and apple trees, besides a great number of figs, cherries, and other fruit trees, of which they are very curious. They are of opinion that this part of the Indiana Territory is as well suited as any part of France to the cultivation of the vine, but the vines they say require different management here from what they were accustomed to in Switzerland. I purchased a bottle of their last vintage, and drank to all your healths as long as it lasted, in going down the river. Seven miles below this I passed the mouth of Kentucky river, which has a formidable appearance. I observed twenty or thirty scattered houses on its upper side, and a few below, many of the former seemingly in a state of decay. It rained on me almost the whole of this day, and I was obliged to row hard and drink healths to keep myself comfortable. My birds' skins were wrapped up in my great coat, and my own skin had to sustain a complete drenching, which, however, had no bad effects.

"This evening I lodged at the most wretched hovel I had yet seen. The owner, a meagre diminutive wretch, soon began to let me know of how much consequence he had formerly been; that he had gone through all the war with General Washington—had become one of his *life-guards*, and had sent many a British soldier to his long home. As I answered him with indifference, to interest me the more he began to detail anecdotes of his wonderful exploits; 'One grenadier,' said he, 'had the impudence to get up on the works, and to wave his cap in defiance; my commander (General Washington I suppose) says to me, 'Dick, says he, can't you pepper that there fellow for me?' says he. 'Please your honor,' says I, 'I'll try at it;' so I took a fair, cool and steady aim, and touched my trigger. Up went his heels like a turkey! down he tumbled! one buckshot had entered *here* and another *here* (laying a finger on each breast), and the bullet found the way to his brains right through his forehead. By God he was a noble-looking fellow!'

Though I believed every word of this to be a lie, yet I could not but look

with disgust on the being who uttered it. This same miscreant pronounced a long prayer before supper, and immediately after called out, in a splutter of oaths, for the pine splinters to be held to let the gentleman see. Such a far-rago of lies, oaths, prayers and politeness, put me in a good humor in spite of myself. The whole herd of this filthy kennel were in perpetual motion with the itch; so having procured a large fire to be made, under pretence of habit I sought for the softest plank, placed my trunk and great coat at my head, and stretched myself there till morning. I set out early and passed several arks. A number of turkeys which I observed from time to time on the Indiana shore, made me lose half the morning in search of them. On the Kentucky shore I was also decoyed by the same temptations, but never could approach near enough to shoot one of them. These affairs detained me so, that I was dubious whether I should be able to reach Louisville that night. Night came on, and I could hear nothing of the Falls; about eight I first heard the roaring of the Rapids, and as it increased I was every moment in hopes of seeing the lights of Louisville; but no lights appeared, and the noise seemed now within less than half a mile of me. Seriously alarmed, lest I might be drawn into the suction of the Falls, I cautiously coasted along shore, which was full of *snags* and *sawyers*, and at length, with great satisfaction, opened Bear-Grass Creek, where I secured my skiff to a Kentucky boat, and loading myself with my baggage, I groped my way through a swamp up to the town. The next day I sold my skiff for exactly half what it cost me; and the man who bought it wondered why I gave it such a droll Indian name, (the Ornithologist,) 'some old chief or warrior I suppose,' said he. This day I walked down along shore to Shippingport, to take a view of these celebrated Rapids, but they fell far short of my expectation. I should have no hesitation in going down them in a skiff. The Falls of Oswego, in the State of New York, though on a smaller scale, are far more dangerous and formidable in appearance. Though the river was not high, I observed two arks and a barge run them with great ease and rapidity. The Ohio here is something more than a mile wide, with several islands interspersed; the channel rocky, and the islands heaped with drift wood. The whole fall in two miles is less than twenty-four feet. The town of Louisville stands on a high *second* bank, and is about as large as Frankford, having a number of good brick buildings and valuable shops. The situation would be as healthy as any on the river, but for the numerous swamps and ponds that intersect the woods in its neighborhood. These from their height above the river might all be drained and turned into cultivation; but every man here is so intent on the immediate making of money, that they have neither time nor disposition for improvements, even where the article health is at stake. A man here told me that last fall he had fourteen sick in his own family. On Friday the 24th, I left my baggage with a merchant of the place to be forwarded by the first wagon, and set out on foot for Lexington, seventy-two miles distant. I passed through Middletown and Shelbyville, both inconsiderable places. Nine-tenths of the country is in forest; the surface undulating into gentle eminences and declivities, between each of which generally runs a brook, over loose flags of limestone. The soil, by appearance, is of the richest sort. I observed immense fields of Indian corn, high excellent fences,

few grain fields, many log houses, and those of the meaner sort. I took notice of few apple orchards, but several very thriving peach ones. An appearance of slovenliness is but too general about their houses, barns, and barn-yards. Negroes are numerous; cattle and horses lean, particularly the former, who appear as if struggling with starvation for their existence. The woods are swarming with pigs, pigeons, squirrels and woodpeckers. The pigs are universally fat, owing to the great quantity of mast this year. Walking here in wet weather is most execrable, and is like travelling on soft soap; a few days of warm weather hardens this again almost into stone. Want of bridges is the greatest inconvenience to a foot traveller here. Between Shelbyville and Frankfort, having gone out of my way to see a pigeon-roost, (which by-the-by is the greatest curiosity I have seen since leaving home), I waded a deep creek called Benson, nine or ten times. I spent several days in Frankfort, and in rambling among the stupendous cliffs of Kentucky river. On Thursday evening I entered Lexington. But I cannot do justice to these subjects at the conclusion of a letter, which, in spite of all my abridgments, has far exceeded in length what I first intended. My next will be from Nashville. I shall then have seen a large range of Kentucky, and be more able to give you a correct delineation of the country and its inhabitants. In descending the Ohio, I amused myself with a poetical narrative of my expedition, which I have called '*The Pilgrim*,' an extract from which shall close this long and I am afraid tiresome letter."

TO MR. ALEXANDER LAWSON.

"NASHVILLE, Tennessee, April 28th, 1810.

"My Dear Sir.

"Before setting out on my journey through the wilderness to Natchez, I sit down to give you, according to promise, some account of Lexington, and of my adventures through the state of Kentucky. These I shall be obliged to sketch as rapidly as possible. Neither my time nor my situation enables me to detail particulars with any degree of regularity; and you must condescend to receive them in the same random manner in which they occur, altogether destitute of fanciful embellishment; with nothing but their novelty, and the simplicity of truth, to recommend them.

"I saw nothing of Lexington till I had approached within half a mile of the place, when the woods opening, I beheld the town before me, on an irregular plain, ornamented with a small white spire, and consisting of several parallel streets, crossed by some others; many of the houses built of brick; others of frame, neatly painted; but a great proportion wore a more humble and inferior appearance. The fields around looked clean and well fenced; gently undulating, but no hills in view. In a hollow between two of these parallel streets, ran a considerable brook, that, uniting with a larger a little below the town, drives several mills. A large quarry of excellent building-stone also attracted my notice as I entered the town. The main street was paved with large masses from this quarry, the foot path neat, and guarded by wooden posts. The numerous shops piled with goods, and the many well dressed females I passed

in the streets; the sound of social industry, and the gay scenery of 'the busy haunts of men,' had a most exhilarating effect on my spirits, after being so long immured in the forest. My own appearance, I believe, was to many equally interesting; and the shopkeepers and other loungers interrogated me with their eyes as I passed, with symptoms of eager and inquisitive curiosity. After fixing my quarters, disposing of my arms, and burnishing myself a little, I walked out to have a more particular view of the place.

"This little metropolis of the western country is nearly as large as Lancaster in Pennsylvania. In the centre of the town is a public square, partly occupied by the court-house and market-place, and distinguished by the additional ornament of the pillory and stocks. The former of these is so constructed as to serve well enough, if need be, occasionally for a gallows, which is not a bad thought; for as nothing contributes more to make *hardened villains* than the pillory, so nothing so effectually rids society of them as the gallows; and every knave may here exclaim,

"My *bane* and *antidote* are both before me."

I peeped into the court-house as I passed, and though it was court day, I was struck with the appearance its interior exhibited; for, though only a plain square brick building, it has all the gloom of the Gothic, so much admired of late, by our modern architects. The exterior walls, having, on experiment, been found too feeble for the superincumbent honors of the roof and steeple, it was found necessary to erect, from the floor, a number of large, circular, and unplastered brick pillars, in a new order of architecture (the thick end uppermost), which, while they serve to impress the spectators with the perpetual dread that they will tumble about their ears, contribute also, by their number and bulk, to shut out the light, and to spread around a reverential gloom, producing a melancholy and chilling effect; a very good disposition of mind, certainly, for a man to enter a court of justice in. One or two solitary individuals stole along the damp and silent floor; and I could just desery, elevated at the opposite extremity of the building, the judges sitting, like spiders in a window corner, dimly distinguishable through the intermediate gloom. The market-place, which stands a little to the westward of this, and stretches over the whole breadth of the square, is built of brick, something like that of Philadelphia, but is unpaved and unfinished. In wet weather you sink over the shoes in mud at every step; and here again the wisdom of the police is manifest; as nobody at such times will wade in there unless forced by business or absolute necessity; by which means a great number of idle loungers are, very properly, kept out of the way of the market folks.

"I shall say nothing of the nature or quantity of the commodities which I saw exhibited there for sale, as the season was unfavorable to a display of their productions; otherwise something better than a few cakes of black maple sugar, wrapped up in greasy saddle-bags, some cabbage, chewing tobacco, catmint and turnip tops, a few bags of meal, sassafras-roots, and skinned squirrels cut up into quarters—something better than all this, I say, in the proper season, certainly

covers the stalls of this market-place, in the metropolis of the fertile country of Kentucky.*

"The horses of Kentucky are the hardiest in the world, not so much by nature as by education and habit. From the commencement of their existence they are habituated to every extreme of starvation and gluttony, idleness and excessive fatigue. In summer they fare sumptuously every day. In winter, when not a blade of grass is to be seen, and when the cows have deprived them of the very bark and buds of every fallen tree, they are ridden into town, fifteen or twenty miles, through roads and sloughs that would become the graves of any common animal, with a fury and celerity incomprehensible by you folks on the other side of the Alleghany. They are there fastened to the posts on the sides of the streets, and around the public square, where

* This letter, it should seem, gave offence to some of the inhabitants of Lexington; and a gentleman residing in that town, solicitous about its reputation, undertook, in a letter to the editor of the *Port Folio*, to vindicate it from strictures which he plainly insinuated were the offspring of ignorance, and unsupported by fact.

After a feeble attempt at sarcasm and irony, the letter-writer thus proceeds: "I have too great a respect for Mr. Wilson, as your friend, not to believe he had in mind some other market-house than that of Lexington, when he speaks of it as 'unpaved and unfinished!' But the people of Lexington would be gratified to learn what your ornithologist means by 'skinned squirrels cut up into quarters,' which curious anatomical preparations he enumerates among the articles he saw in the Lexington market. Does Mr. Wilson mean to *joke* upon us? If this is wit we must confess that, however abundant our country may be in good substantial matter-of-fact salt, the attic tart is unknown among us.

"I hope, however, soon to see this gentleman's American Ornithology. Its elegance of execution, and descriptive propriety, may assuage the little pique we have taken from the author."

The editor of the *Port Folio* having transmitted this letter to Wilson, previous to sending it to press, it was returned with the following note:

"TO THE EDITOR OF THE PORT FOLIO.

"Bartram's Gardens, July 16, 1811.

"Dear Sir.

"No man can have a more respectful opinion of the people of Kentucky, particularly those of Lexington, than myself; because I have traversed nearly the whole extent of their country, and witnessed the effects of their bravery, their active industry, and daring spirit for enterprise. But they would be gods, and not men, were they *faultless*.

"I am sorry that truth will not permit me to retract, as mere *jokes*, the few disagreeable things alluded to. I certainly had no other market-place in view, than that of Lexington, in the passage above mentioned. As to the circumstance of 'skinned squirrels, cut up into quarters,' which seems to have excited so much sensibility, I candidly acknowledge myself to have been incorrect in that statement, and I owe an apology for the same. On referring to my notes taken at the time, I find the word '*halves*,' not quarters; that is, those 'curious anatomical preparations' (skinned squirrels) were brought to market in the form of a saddle of venison; not in that of a leg or shoulder of mutton.

"With this correction, I beg leave to assure your very sensible correspondent, that the thing itself was no *joke*, nor meant for one; but, like all the rest of the particulars of that sketch, 'good substantial matter of fact.'

"If these explanations, or the perusal of my American Ornithology, should assuage the 'little pique' in the minds of the good people of Lexington, it will be no less honorable to their own good sense, than agreeable to your humble servant," &c. *Port Folio* for August, 1811.

hundreds of them may be seen, on a court day, hanging their heads from morning to night, in deep cogitation, ruminating perhaps on the long-expected return of spring and green herbage. The country people, to their credit be it spoken, are universally clad in plain homespun; soap, however, appears to be a scarce article; and Hopkins' *double cutters* would find here a rich harvest, and produce a very improving effect. Though religion here has its zealous votaries, yet none can accuse the inhabitants of this flourishing place of bigotry, in shutting out from the pale of the church or churchyard any human being, or animal whatever. *Some* of these sanctuaries are open at all hours, and to every visitor. The birds of heaven find a hundred passages through the broken panes; and the cows and hogs a ready access on all sides. The wall of separation is broken down between the living and the dead; and dogs tug at the carcass of the horse, on the grave of his master. Lexington, however, with all its faults, which a few years will gradually correct, is an honorable monument of the enterprise, courage, and industry of its inhabitants. Within the memory of a middle aged man, who gave me the information, there were only two log huts on the spot where this city is now erected; while the surrounding country was a wilderness, rendered hideous by skulking bands of bloody and ferocious Indians. Now, numerous excellent institutions for the education of youth, a public library, and a well-endowed university, under the superintendence of men of learning and piety, are in successful operation. Trade and manufactures are also rapidly increasing. Two manufactories for spinning cotton have lately been erected; one for woollen; several extensive ones for weaving sail-cloth and bagging; and seven ropewalks, which, according to one of the proprietors, export, annually, ropeyarn to the amount of 150,000 dollars. A taste for neat, and even elegant, buildings is fast gaining ground; and Lexington, at present, can boast of men who do honor to science, and of females whose beauty and amiable manners would grace the first circles of society.

"On Saturday, April 14th, I left this place for Nashville, distant about 200 miles. I passed through Nicholasville, the capital of Jessamine county, a small village begun about ten years ago, consisting of about twenty houses, with three shops and four taverns. The woods were scarcely beginning to look green, which to me was surprising, having been led by common report to believe that spring here is much earlier than in the lower parts of Pennsylvania. I must further observe, that, instead of finding the woods of Kentucky covered with a profusion of flowers, they were, at this time, covered with rotten leaves and dead timber, in every stage of decay and confusion; and I could see no difference between them and our own, but in the magnitude of the timber, and superior richness of the soil. Here and there the white blossoms of the *Sanguinaria canadensis*, or red root, were peeping through the withered leaves; and the buds of the buckeye, or horse chestnut, and one or two more, were beginning to expand. Wherever the hackberry had fallen, or been cut down, the cattle had eaten the whole bark from the trunk, even to that of the roots.

"Nineteen miles from Lexington, I descended a long, steep, and rocky declivity, to the banks of Kentucky river, which is here about as wide as the

Schuylkill; and winds away between prodigious perpendicular cliffs of solid limestone. In this deep and romantic valley the sound of the boat horns, from several Kentucky arks, which were at that instant passing, produced a most charming effect. The river, I was told, had already fallen fifteen feet; but was still high. I observed great numbers of uncommon plants and flowers, growing among the cliffs; and a few solitary bank swallows were skimming along the surface. Reascending from this, and travelling for a few miles, I again descended a vast depth to another stream called Dick's river, engulfed among the same perpendicular masses of rock. Though it was nearly dark, I found some curious petrifications, and some beautiful specimens of mother-of-pearl on the shore. The roaring of a mill-dam, and the rattling of the mill, prevented the ferryman from hearing me till it was quite night; and I passed the rest of the road in the dark, over a rocky country, abounding with springs, to Danville. This place stands on a slight eminence, and contains about eighty houses, chiefly log and frame buildings, disposed in two parallel streets; crossed by several others. It has two ropewalks and a woollen manufactory; also nine shops and three taverns. I observed a great many sheep feeding about here, amidst fields of excellent pasture. It is, however, but a dull place. A Roman Catholic chapel has been erected here, at the expense of one or two individuals. The shopkeepers trade from the mouth of Dick's river down to New Orleans, with the common productions of the country, flour, hemp, tobacco, pork, corn, and whiskey.

"I was now one hundred and eighty miles from Nashville, and, as I was informed, not a town or village on the whole route. Every day, however, was producing wonders in the woods, by the progress of vegetation. The blossoms of the sassafras, dog-wood, and red bud, contrasted with the deep green of the poplar and buckeye, enriched the scenery on every side; while the voices of the feathered tribes, many of which were to me new and unknown, were continually engaging me in the pursuit. Emerging from the deep solitude of the forest, the rich green of the grain-fields, the farm-house and cabins embosomed amidst orchards of glowing purple and white, gave the sweetest relief to the eye. Not far from the foot of a high mountain, called Mulders Hill, I overtook one of those family caravans so common in this country, moving to the westward. The procession occupied a length of road, and had a formidable appearance, though, as I afterwards understood, it was composed of the individuals of only a single family. In the front went a wagon drawn by four horses, driven by a negro, and filled with implements of agriculture; another heavy-loaded wagon, with six horses, followed, attended by two persons; after which came a numerous and mingled group of horses, steers, cows, sheep, hogs, and calves with their bells; next followed eight boys mounted double, also a negro wench with a white child before her; then the mother with one child behind her, and another at the breast; ten or twelve colts brought up the rear, now and then picking herbage, and trotting ahead. The father, a fresh, good-looking man, informed me that he was from Washington county, in Kentucky, and was going as far as Cumberland river; he had two ropes fixed to the top of the wagon, one of which he guided himself, and the other was intrusted to his eldest son, to keep it from oversetting in ascending the mountain. The singu-

lar appearance of this moving group, the mingled music of the bells, and the shoutings of the drivers, mixed with the echoes of the mountains, joined to the picturesque solitude of the place, and various reflections that hurried through my mind, interested me greatly; and I kept company with them for some time, to lend my assistance if necessary.

“The country now became mountainous, perpetually ascending and descending; and about forty-nine miles from Danville, I passed through a pigeon roost, or rather breeding-place, which continued for three miles, and, from information, extended in length for more than forty miles. The timber was chiefly beech; every tree was loaded with nests, and I counted, in different places, more than ninety nests on a single tree. Beyond this I passed a large company of people engaged in erecting a horse-mill for grinding grain. The few cabins I passed were generally poor; but much superior in appearance to those I met with on the shores of the Ohio. In the evening I lodged near the banks of Green river. This stream, like all the rest, is sunk in a deep gulf, between high, perpendicular walls of limestone; is about thirty yards wide at this place, and runs with great rapidity; but, as it had fallen considerably, I was just able to ford it without swimming. The water was of a pale greenish color, like that of the Licking, and some other streams, from which circumstance I suppose it has its name. The rocky banks of this river are hollowed out in many places into caves of enormous size, and of great extent. These rocks abound with the same masses of petrified shells so universal in Kentucky. In the woods, a little beyond this, I met a soldier, on foot, from New Orleans, who had been robbed and plundered by the Choctaws as he passed through their nation. ‘Thirteen or fourteen Indians,’ said he, ‘surrounded me before I was aware, cut away my canteen, tore off my hat, took the handkerchief from my neck, and the shoes from my feet, and all the money I had from me, which was about forty-five dollars.’ Such was his story. He was going to Chillicothe, and seemed pretty nearly *done up*.

“In the afternoon I crossed another stream of about twenty-five yards in width, called Little Barren; after which the country began to assume a new and very singular appearance. The woods, which had hitherto been stately, now degenerated into mere scrubby saplings, on which not a bud was beginning to unfold, and grew so open that I could see for a mile through them. No dead timber or rotting leaves were to be seen, but the whole face of the ground was covered with rich verdure, interspersed with a variety of very beautiful flowers, altogether new to me. It seemed as if the whole country had once been one general level; but that from some unknown cause, the ground had been *undermined*, and had *fallen in*, in innumerable places, forming regular, funnel-shaped, concavities of all dimensions, from twenty feet in diameter, and six feet in depth, to five hundred by fifty, the surface or verdure generally unbroken. In some tracts the surface was entirely destitute of trees, and the eye was presented with nothing but one general neighborhood of these concavities, or, as they are usually called, sink-holes. At the centre, or bottom of some of these, openings had been made for water. In several places these holes had broken in, on the sides, and even middle of the road, to an unknown depth; presenting their grim mouths as if to swallow up the unwary

traveller. At the bottom of one of those declivities, at least fifty feet below the general level, a large rivulet of pure water issued at once from the mouth of a cave about twelve feet wide and seven high. A number of very singular sweet smelling lichens grew over the entrance, and a pewee had fixed her nest, like a little sentry-box, on a projecting shelf of the rock above the water. The height and dimensions of the cave continued the same as far as I waded in, which might be thirty or forty yards, but the darkness became so great that I was forced to return. I observed numbers of small fish sporting about, and I doubt not but these abound even in its utmost subterranean recesses. The whole of this country from Green to Red river, is hollowed out into these enormous caves, one of which, lately discovered in Warren county, about eight miles from the Dripping Spring, has been explored for upwards of six miles, extending under the bed of the Green river. The entrance to these caves generally commences at the bottom of a sink-hole; and many of them are used by the inhabitants as cellars or spring-houses, having generally a spring or brook of clear water running through them. I descended into one of these belonging to a Mr. Wood, accompanied by the proprietor, who carried the light. At first the darkness was so intense that I could scarcely see a few feet beyond the circumference of the candle; but, after being in for five or six minutes, the objects around me began to make their appearance more distinctly, the bottom, for fifteen or twenty yards at first, was so irregular, that we had constantly to climb over large masses of wet and slippery rocks; the roof rose in many places to the height of twenty or thirty feet, presenting all the most irregular projections of surface, and hanging in gloomy and silent horror. We passed numerous chambers, or off-sets, which we did not explore; and after three hours' wandering in these profound regions of glooms and silence, the particulars of which would detain me too long, I emerged with a handkerchief filled with bats, including one which I have never seen described; and a number of extraordinary insects of the *Gryllus* tribe, with antennæ upwards of six inches long, and which I am persuaded had never before seen the light of day, as they fled from it with seeming terror, and I believe were as blind in it as their companions the bats.

"Great quantities of native glauber salts are found in these caves, and are used by the country people in the same manner, and with equal effect, as those of the shops. But the principal production is saltpetre, which is procured from the earth in great abundance. The cave in Warren county above mentioned, has lately been sold for three thousand dollars, to a saltpetre company, an individual of which informed me that, from every appearance, this cave had been known to the Indians many ages ago; and had evidently been used for the same purposes. At the distance of more than a mile from the entrance, the exploring party, on their first visit, found the roof blackened by smoke, and bundles of half-burnt canes scattered about. A bark moccasin, of curious construction, besides several other Indian articles, were found among the rubbish. The earth, also, lay piled in heaps, with great regularity, as if in preparation for extracting the saltpetre.

"Notwithstanding the miserable appearance of the timber on these barrens, the soil, to my astonishment, produced the most luxuriant fields of corn and

wheat I had ever before met with. But one great disadvantage is the want of water, for the whole running streams, with which the surface of this country evidently once abounded, have been drained off to a great depth, and now murmur among these lower regions, secluded from the day. One forenoon I rode nineteen miles without seeing water; while my faithful-horse looked round, but in vain, at every hollow, with a wishful and languishing eye, for that precious element. These barrens furnished me with excellent sport in shooting grouse, which abound here in great numbers; and in the delightful groves that here and there rise majestically from these plains, I found many new subjects for my Ornithology. I observed all this day, far to the right, a range of high rocky detached hills, or knobs, as they are called, that skirt the barrens, as if they had been once the boundaries of the great lake that formerly covered this vast plain. These, I was told, abound with stone coal and copperas. I crossed Big Barren river in a ferry boat, where it was about one hundred yards wide; and passed a small village called Bowling Green, near which I rode my horse up to the summit of one of these high insulated rocky hills, or knobs, which overlooked an immense circumference of country, spreading around bare and leafless, except where the groves appeared, in which there is usually water.

"Fifteen miles from this, induced by the novel character of the country, I put up for several days, at the house of a pious and worthy Presbyterian, whence I made excursions, in all directions, through the surrounding country. Between this and Red river the country had a bare and desolate appearance. Caves continued to be numerous; and report made some of them places of concealment for the dead bodies of certain strangers, who had disappeared there. One of these lies near the banks of the Red river, and belongs to a person of the name of ———, a man of notoriously bad character, and strongly suspected, even by his neighbors, of having committed a foul murder of this kind, which was related to me with all its minutiae of horrors. As this man's house stands by the road side, I was induced, by motives of curiosity, to stop and take a peep of him. On my arrival I found two persons in conversation under the piazza, one of whom informed me that he was the landlord. He was a dark mulatto, rather above the common size, inclining to corpulency, with legs small in proportion to his size, and walked lame. His countenance bespoke a soul capable of deeds of darkness. I had not been three minutes in company when he invited the other man (who I understood was a traveller), and myself, to walk back and see his cave, to which I immediately consented. The entrance is in the perpendicular front of a rock, behind the house; has a door with a lock and key to it, and was crowded with pots of milk, placed near the running stream. The roof and sides of solid rock were wet and dropping with water. Desiring ——— to walk before with the lights, I followed with my hand on my pistol, reconnoitering on every side, and listening to his description of its length and extent. After examining this horrible vault for forty or fifty yards, he declined going any further, complaining of a rheumatism; and I now first perceived that the other person had stayed behind, and that we two were alone together. Confident in my means of self defence, whatever mischief the devil might suggest to him, I

fixed my eyes steadily on his, and observed to him, that he could not be ignorant of the reports circulated about the country relative to this cave. 'I suppose,' said I, 'you know what I mean?' 'Yes, I understand you,' returned he, without appearing the least embarrassed, 'that I killed somebody and threw them into this cave—I can tell you the whole beginning of that damned lie,' said he; and, without moving from the spot, he detailed to me a long story, which would fill half my letter, to little purpose, and which, with other particulars, I shall reserve for your amusement when we meet. I asked him why he did not get the cave examined by three or four reputable neighbors, whose report might rescue his character from the suspicion of having committed so horrid a crime. He acknowledged it would be well enough to do so; but did not seem to think it worth the trouble; and we returned as we advanced, ——— walking before with the lights. Whether this man be guilty or not of the transaction laid to his charge I know not; but his manners and aspect are such as by no means to allay suspicion.

"After crossing Red river, which is here scarce twenty yards broad, I found no more barrens. The timber was large, and the woods fast thickening with green leaves. As I entered the state of Tennessee, the face of the country became hilly, and even mountainous. After descending an immense declivity, and coursing along the rich valley of Manskers creek, where I again met with large flocks of paroquets, I stopped at a small tavern, to examine, for three or four days, this part of the country. Here I made some interesting additions to my stock of new subjects for the Ornithology. On the fourth day I crossed the Cumberland, where it is about two hundred and fifty yards wide, and of great depth, bounded as usual with high precipitous banks, and reached the town of Nashville, which towers like a fortress above the river. Here I have been busily employed these eight days; and send you the enclosed parcel of drawings, the result of every moment of leisure and convenience I could obtain. Many of the birds are altogether new; and you will find along with them every explanation necessary for your purpose.

"You may rest assured of hearing from me by the first opportunity after my arrival at Natchez. In the mean time I receive with much pleasure the accounts you give me of the kind inquiries of my friends. To me nothing could be more welcome; for whether journeying in this world, or journeying to that which is to come, there is something of desolation and despair in the idea of being for ever forgotten in our absence, by those whom we sincerely esteem and regard."

TO MR. ALEXANDER LAWSON.

NATCHEZ, Mississippi Territory, May 18th, 1810.

"Dear Sir.

"About three weeks ago I wrote to you from Nashville, enclosing three sheets of drawings, which I hope you have received.* I was at that time on the point of setting out for St Louis; but being detained a week by constant and heavy rains, and considering that it would add four hundred miles to my jour-

* These drawings never came to hand.

ney, and detain me at least a month; and the season being already far advanced, and no subscribers to be expected there, I abandoned the idea, and prepared for a journey through the wilderness. I was advised by many not to attempt it alone; that the Indians were dangerous, the swamps and rivers almost impassable without assistance, and a thousand other hobgoblins were conjured up to dissuade me from going *alone*. But I weighed all these matters in my own mind; and attributing a great deal of this to vulgar fears and exaggerated reports, I equipped myself for the attempt. I rode an excellent horse, on which I could depend; I had a loaded pistol in each pocket, a loaded fowling piece belted across my shoulder, a pound of gunpowder in my flask, and five pounds of shot in my belt. I bought some biscuit and dried beef, and on Friday morning, May 4th, I left Nashville. About half a mile from town I observed a poor negro with *two* wooden legs, building himself a cabin in the woods. Supposing that this journey might afford you and my friends some amusement, I kept a particular account of the various occurrences, and shall transcribe some of the most interesting, omitting everything relative to my Ornithological excursions and discoveries, as more suitable for another occasion.

"Eleven miles from Nashville, I came to the Great Harpath, a stream of about fifty yards wide, which was running with great violence. I could not discover the entrance of the ford, owing to the rains and inundations. There was no time to be lost, I plunged in, and almost immediately my horse was swimming. I set his head aslant the current, and being strong, he soon landed me on the other side. As the weather was warm, I rode in my wet clothes without any inconvenience. The country to-day was a perpetual succession of steep hills and low bottoms; I crossed ten or twelve large creeks, one of which I swam with my horse, where he was near being entangled among some bad driftwood. Now and then a solitary farm opened from the woods, where the negro children were running naked about the yards. I also passed along the north side of a high hill, where the whole timber had been prostrated by some terrible hurricane. I lodged this night in a miner's, who told me he had been engaged in forming no less than thirteen companies for hunting mines, all of whom had left him. I advised him to follow his farm, as the surest vein of ore he could work.

"Next day (Saturday) I first observed the cane growing, which increased until the whole woods were full of it. The road this day winded along the high ridges of mountains that divide the waters of the Cumberland from those of the Tennessee. I passed few houses to-day; but met several parties of boatmen returning from Natchez and New Orleans; who gave me such an account of the road, and the difficulties they had met with, as served to stiffen my resolution to be prepared for everything. These men were as dirty as Hottentots; their dress a shirt and trowsers of canvas, black, greasy, and sometimes in tatters; the skin burnt wherever exposed to the sun; each with a budget, wrapped up in an old blanket; their beards, eighteen days old, added to the singularity of their appearance, which was altogether savage. These people came from the various tributary streams of the Ohio, hired at forty or fifty dollars a trip, to return back on their own expenses. Some had upwards of

eight hundred miles to travel. When they come to a stream that is unfordable, they coast it for a fallen tree: if that cannot be had, they enter with their budget on their head, and when they lose bottom, drop it on their shoulders, and take to swimming. They have sometimes fourteen or fifteen of such streams to pass in a day, and morasses of several miles in length, that I have never seen equalled in any country. I lodged this night at one Dobbins's, where ten or twelve of these men lay on the floor. As they scrambled up in the morning, they very generally complained of being unwell, for which they gave an odd reason, lying *within doors*, it being the first of fifteen nights they had been so indulged.

"Next morning (Sunday) I rode six miles to a man's, of the name of Grinder, where our poor friend Lewis perished.* In the same room where he expired, I took down from Mrs. Grinder the particulars of that melancholy event, which affected me extremely. This house, or cabin, is seventy-two miles from Nashville, and is the last white man's as you enter the Indian country. Governor Lewis, she said, came hither about sunset, alone, and inquired if he could stay for the night; and, alighting, brought his saddle into the house. He was dressed in a loose gown, white, striped with blue. On being asked if he came alone, he replied that there were two servants behind, who would soon be up. He called for some spirits, and drank a very little. When the servants arrived, one of whom was a negro, he inquired for his powder, saying he was sure he had some powder in a canister. The servant gave no distinct reply, and Lewis, in the meanwhile, walked backwards and forwards before the door, talking to himself. Sometimes, she said, he would seem as if he were walking up to her; and would suddenly wheel round, and walk back as fast as he could. Supper being ready, he sat down, but had eaten only a few mouthfuls when he started up, speaking to himself in a violent manner. At these times, she says, she observed his face to flush as if it had come on him in a fit. He lighted his pipe, and drawing a chair to the door sat down, saying to Mrs. Grinder, in a kind tone of voice, 'Madam, this is a very pleasant evening.' He smoked for some time, but quitted his seat and traversed the yard as before. He again sat down to his pipe, seemed again composed, and casting his eyes wistfully towards the west, observed what a sweet evening it was. Mrs. Grinder was preparing a bed for him; but he said he would sleep on the floor, and desired the servant to bring the bear-skins and buffalo robe, which were immediately spread out for him; and, it being now dusk, the women went off to the kitchen, and the two men to the barn, which stands about two hundred yards off. The kitchen is only a few paces from the room where Lewis was, and the woman, being considerably alarmed by the behavior of her guest, could not sleep, but listened to him walking backwards and for-

* It is hardly necessary to state, that this was the brave and enterprising traveller, whose journey across the Rocky Mountains, to the Pacific Ocean, has obtained for him well-merited celebrity. The *true* cause of his committing the rash deed, so feelingly detailed above, is not yet known to the public; but his friends will not soon forget the base imputations and cruel neglect, which the honorable mind of the gallant soldier knew not how to brook.

wards, she thinks, for several hours, and talking aloud, as she said, 'like a lawyer.' She then heard the report of a pistol, and something fall heavily on the floor, and the words '*O Lord!*' Immediately afterwards she heard another pistol, and in a few minutes she heard him at her door calling out '*O, madam! give me some water, and heal my wounds.*' The logs being open, and unplastered, she saw him stagger back and fall against a stump that stands between the kitchen and room. He crawled for some distance, and raised himself by the side of a tree, where he sat about a minute. He once more got to the room; afterwards he came to the kitchen door, but did not speak: she then heard him scraping the bucket with a gourd for water; but it appears that this cooling element was denied the dying man! As soon as day broke, and not before, the terror of the woman having permitted him to remain for two hours in this most deplorable situation, she sent two of her children to the barn, her husband not being at home, to bring the servants; and on going in they found him lying on the bed; he uncovered his side, and showed them where the bullet had entered; a piece of the forehead was blown off, and had exposed the brains, without having bled much. He begged they would take his rifle and blow out his brains, and he would give them all the money he had in his trunk. He often said, 'I am no coward; but I am *so* strong, *so* hard to die.' He begged the servant not to be afraid of him, for that he would not hurt him. He expired in about two hours, or just as the sun rose above the trees. He lies buried close by the common path, with a few loose rails thrown over his grave. I gave Grinder money to put a post fence round it, to shelter it from the hogs, and from the wolves; and he gave me his written promise he would do it. I left this place in a very melancholy mood, which was not much allayed by the prospect of the gloomy and savage wilderness which I was just entering alone.

* * * * *

"I was roused from this melancholy reverie by the roaring of Buffalo river, which I forded with considerable difficulty. I passed two or three solitary Indian huts in the course of the day, with a few acres of open land at each; but so wretchedly cultivated, that they just make out to raise maize enough to keep in existence. They pointed me out the distances by holding up their fingers. This is the country of the Chickasaws, though erroneously laid down in some maps as that of the Cherokees. I slept this night in one of their huts; the Indians spread a deer skin for me on the floor, I made a pillow of my portmanteau, and slept tolerably well; an old Indian laid himself down near me.

"On Monday morning I rode fifteen miles, and stopped at an Indian's to feed my horse. The sight of my parrot brought the whole family around me. The women are generally naked from the middle upwards; and their heads, in many instances, being rarely combed, look like a large mop; they have a yard or two of blue cloth wrapped round by way of petticoat, that reaches to their knees—the boys were generally naked; except a kind of bag of blue cloth, by way of *fig-leaf*. Some of the women have a short jacket, with sleeves, drawn over their naked body, and the rag of a blanket is a general appendage. I met to-day two officers of the United States army, who gave me

a better account of the road than I had received. I passed through many bad swamps to-day; and at about five in the evening came to the banks of the Tennessee, which was swelled by the rains, and is about half a mile wide thirty miles below the Muscle Shoals, and just below a long island laid down in your small map. A growth of canes, of twenty and thirty feet high, covers the low bottoms; and these cane swamps are the gloomiest and most desolate looking places imaginable. I hailed for the boat as long as it was light, without effect; I then sought out a place to encamp, kindled a large fire, stripped the canes for my horse, eat a bit of supper, and lay down to sleep; listening to the owls, and the *Chuck-Wills-Widow*, a kind of *Whip-poor-Will*, that is very numerous here. I got up several times during the night to recruit my fire, and see how my horse did; and, but for the gnats, would have slept tolerably well. These gigantic woods have a singular effect by the light of a large fire; the whole scene being circumscribed by impenetrable darkness, except that in front, where every leaf is strongly defined, and deeply shaded.

"In the morning I hunted until about six, when I again renewed my shoutings for the boat, and it was not until near eleven that it made its appearance. I was so enraged at this delay, that, had I not been cumbered with baggage, I believe I should have ventured to swim the river. I vented my indignation on the owner of the boat, who is a half-breed, threatening to publish him in the papers, and advise every traveller I met to take the upper ferry. This man charges one dollar for man and horse, and thinks, because he is a chief, he may do in this way what he pleases. The country now assumed a new appearance; no brushwood—no fallen or rotten timber; one could see a mile through the woods, which were covered with high grass fit for mowing. These woods are burnt every spring, and thus are kept so remarkably clean, that they look like the most elegant noblemen's parks. A profusion of flowers, altogether new to me, and some of them very elegant, presented themselves to my view as I rode along. This must be a heavenly place for the botanist. The most observable of these flowers was a kind of Sweet William, of all tints, from white, to the deepest crimson. A superb Thistle, the most beautiful I had ever seen. A species of Passion flower, very beautiful. A stately plant of the Sunflower family—the button of the deepest orange, and the radiating petals bright carmine, the breadth of the flower about four inches. A large white flower like a deer's tail. Great quantities of the Sensitive plant, that shrunk instantly on being touched, covered the ground in some places. Almost every flower was new to me, except the Carolina Pink-root, and Colombo, which grew in abundance on every side. At Bear creek, which is a large and rapid stream, I first observed the Indian boys with their *blow-guns*. These are tubes of cane seven feet long, and perfectly straight, when well made. The arrows are made of slender slips of cane, twisted, and straightened before the fire, and covered for several inches at one end with the down of thistles, in a spiral form, so as just to enter the tube. By a puff they can send these with such violence as to enter the body of a partridge, twenty yards off. I set several of them a hunting birds by promises of reward, but not one of them could succeed. I also tried some of the blow-guns myself, but found them generally defective in straightness. I met six parties of boatmen to-day, and many straggling Indians, and

encamped about sunset near a small brook, where I shot a turkey, and on returning to my fire found four boatmen, who stayed with me all night, and helped to pick the bones of the turkey. In the morning I heard the turkeys gobbling all round me, but not wishing to leave my horse, having no great faith in my guests' honesty, I proceeded on my journey.

"This day (Wednesday) I passed through the most horrid swamps I had ever seen. These are covered with a prodigious growth of canes, and high woods, which together, shut out almost the whole light of day for miles. The banks of the deep and sluggish creeks, that occupy the centre, are precipitous, where I had often to plunge my horse seven feet down, into a bed of deep clay up to his belly; from which nothing but great strength and exertion could have rescued him; the opposite shore was equally bad, and beggars all description. For an extent of several miles, on both sides of these creeks, the darkness of night obscures every object around. On emerging from one of the worst of these, I met General Wade Hampton, with two servants, and a pack-horse, going, as he said, towards Nashville. I told him of the mud campaign immediately before him; I was covered with mire and wet, and I thought he looked somewhat serious at the difficulties he was about to engage. He has been very sick lately. About half an hour before sunset, being within sight of the Indian's where I intended to lodge, the evening being perfectly clear and calm, I laid the reins on my horse's neck, to listen to a Mocking-bird, the first I had heard in the western country, which, perched on the top of a dead tree before the door, was pouring out a torrent of melody. I think I never heard so excellent a performer. I had alighted, and was fastening my horse, when hearing the report of a rifle immediately beside me, I looked up and saw the poor Mocking-bird fluttering to the ground. One of the savages had marked his elevation, and barbarously shot him. I hastened over into the yard, and walking up to him, told him that was bad, very bad! That this poor bird had come from a far distant country to sing to him, and that in return he had cruelly killed him. I told him the Great Spirit was offended at such cruelty, and that he would lose many a deer for doing so. The old Indian, father-in-law to the bird-killer, understanding by the negro interpreter what I said, replied, that when these birds come singing and making a noise all day near the house, *somebody will surely die*—which is exactly what an old superstitious German, near Hampton in Virginia, once told me. This fellow had married the two eldest daughters of the old Indian, and presented one of them with the bird he had killed.

"The next day I passed through the Chickasaw *Big-town*, which stands on the high open plain, that extends through their country, three or four miles in breadth, by fifteen in length. Here and there you perceive little groups of miserable huts, formed of saplings, and plastered with mud and clay; about these are generally a few peach and plum trees. Many ruins of others stand scattered about, and I question whether there were twenty inhabited huts within the whole range of view. The ground was red with strawberries; and the boatmen were seen in straggling parties feasting on them. Now and then a solitary Indian, wrapped in his blanket, passed sullen and silent. On this plain are beds of shells, of a large species of clam, some of which are almost

entire. I this day stopped at the house of a white man, who had two Indian wives, and a hopeful string of young savages, all in their fig-leaves; not one of them could speak a word of English. This man was by birth a Virginian, and had been forty years among the Chickasaws. His countenance and manners were savage and worse than Indian. I met many parties of boatmen to-day, and crossed a number of bad swamps. The woods continued to exhibit the same open luxuriant appearance, and at night I lodged at a white man's, who has also two wives, and a numerous progeny of young savages. Here I met with a lieutenant of the United States army, anxiously inquiring for General Hampton.

"On Friday the same open woods continued; I met several parties of Indians, and passed two or three of their hamlets. At one of these were two fires in the yard, and at each, eight or ten Indians, men and women, squat on the ground. In these hamlets there is generally one house built of a circular form, and plastered thickly all over without and within with clay. This they call a *hot house*, and it is the general winter quarters of the hamlet in cold weather. Here they all kennel, and having neither window nor place for the smoke to escape, it must be a sweet place while forty or fifty of them have it in occupancy. Round some of these hamlets were great droves of cattle, horses and hogs. I lodged this night on the top of a hill far from water, and suffered severely for thirst.

"On Saturday I passed a number of most execrable swamps, the weather was extremely warm, and I had been attacked by something like the dysentery, which occasioned a constant burning thirst, and weakened me greatly. I stopped this day frequently to wash my head and throat in the water, to allay the burning thirst, and putting on my hat, without wiping, received considerable relief from it. Since crossing the Tennessee the woods have been interspersed with pine, and the soil has become more sandy. This day I met a Captain Hughes, a traveller, on his return from Santa Fe. My complaint increased so much that I could scarcely sit on horseback, and all night my mouth and throat were parched with a burning thirst and fever.

"On Sunday I bought some raw eggs which I ate. I repeated the dose at mid-day, and towards evening, and found great benefit from this simple remedy. I inquired all along the road for fresh eggs, and for nearly a week made them almost my sole food, till I completed my cure. The water in these cane swamps is little better than poison; and under the heat of a burning sun, and the fatigues of travelling, it is difficult to repress the urgent calls of thirst. On the Wednesday following, I was assailed by a tremendous storm of rain, wind and lightning, until I and my horse were both blinded by the deluge, and unable to go on. I sought the first most open place, and dismounting stood for half an hour under the most profuse heavenly *shower-bath* I ever enjoyed. The roaring of the storm was terrible; several trees around me were broken off, and torn up by the roots, and those that stood were bent almost to the ground: limbs of trees of several hundred weight flew past within a few yards of me, and I was astonished how I escaped. I would rather take my chance in a field of battle, than in such a tornado again.

"On the fourteenth day of my journey, at noon, I arrived at this place

having overcome every obstacle, alone, and without being acquainted with the country; and what surprised the boatmen more, *without whiskey*. On an average I met from forty to sixty boatmen every day, returning from this place and New Orleans. The Chickasaws are a friendly, inoffensive people, and the Choctaws, though more reserved, are equally harmless. Both of them treated me with civility, though I several times had occasion to pass through their camps, where many of them were drunk. The paroquet which I carried with me was a continual fund of amusement to all ages of these people; and as they crowded around to look at it, gave me an opportunity of studying their physiognomies, without breach of good manners.

“In thus hastily running over the particulars of this journey, I am obliged to omit much that would amuse and interest you; but my present situation, a noisy tavern, crowded in every corner, even in the room where I write, with the sons of riot and dissipation, prevents me from enlarging on particulars. I could also have wished to give you some account of this place, and of the celebrated Mississippi, of which you have heard so much. On these subjects, however, I can at present only offer you the following slight sketch, taken the morning after my arrival here.

“The best view of this place and surrounding scenery, is from the old Spanish fort on the south side of the town, about a quarter of a mile distant. From this high point, looking up the river, Natchez lies on your right, a mingled group of green trees, and white and red houses, occupying an uneven plain, much washed into ravines, rising as it recedes from the bluff or high precipitous bank of the river. There is, however, neither steeple, cupola, nor distinguished object to add interest to its appearance. The country beyond it to the right is thrown up into the same irregular knolls; and at the distance of a mile, in the same direction, you have a peep of some cultivated farms, bounded by the general forest. On your left you look down, at a depth of two or three hundred feet, on the river, winding majestically to the south; the intermediate space exhibiting wild perpendicular precipices of brown earth. This part of the river and shore is the general rendezvous of all the arks or Kentucky boats, several hundreds of which are at present lying moored there, loaded with the produce of the thousand-shores of this noble river. The busy multitudes below present a perpetually varying picture of industry; and the noise and uproar, softened by the distance, with the continual crowing of the poultry with which many of these arks are filled, produce cheerful and exhilarating ideas. The majestic Mississippi, swelled by his ten thousand tributary streams, of a pale brown color, half a mile wide, and spotted with trunks of trees, that show the different threads of the current and its numerous eddies, bears his depth of water past in silent grandeur. Seven gun-boats, anchored at equal distances along the stream, with their ensigns displayed, add to the effect. A few scattered houses are seen on the low opposite shore, where a narrow strip of cleared land exposes the high gigantic trunks of some deadened timber that bound the woods. The whole country beyond the Mississippi, from south round to west, and north, presents to the eye one universal level ocean of forest, bounded only by the horizon. So perfect is this vast level, that not a leaf seems to rise above the plain, as if shorn by the hands

of heaven. At this moment, while I write, a terrific thunder storm, with all its towering assemblage of black alpine clouds, discharging lightning in every direction, overhangs this vast level, and gives a magnificence and sublime effect to the whole."

The foregoing letters present us with an interesting account of our author's journey, until his arrival at Natchez, on the seventeenth of May. In his diary he says—"This journey, four hundred and seventy-eight miles from Nashville, I have performed alone, through difficulties, which those who have never passed the road could not have a conception of." We may readily suppose that he had not only difficulties to encounter, encumbered as he necessarily was with his shooting apparatus, and bulky baggage, but also dangers, in journeying through a frightful wilderness, where almost impenetrable cane-swamps and morasses present obstacles to the progress of the traveller, which require all his resolution and activity to overcome. Superadded to which, as we are informed, he had a severe attack of the dysentery, when remote from any situation which could be productive of either comfort or relief; and he was under the painful necessity of trudging on, debilitated and dispirited with a disease, which threatened to put a period to his existence. An Indian, having been made acquainted with his situation, recommended the eating of strawberries, which were then fully ripe, and in great abundance. On this delightful fruit, and newly laid eggs, taken raw, he wholly lived for several days; and he attributed his restoration to health to these simple remedies.

On the sixth of June our traveller reached New Orleans, distant from Natchez two hundred and fifty-two miles. As the sickly season was fast approaching, it was deemed advisable not to tarry long in this place; and his affairs being despatched, he sailed on the twenty-fourth in a ship bound to New York, at which place he arrived on the thirtieth of July; and soon reached Philadelphia, enriched with a copious stock of materials for his work, including several beautiful and hitherto unknown birds.*

In the newly settled country through which Wilson had to pass in his last journey, it was reasonable not to expect much encouragement in the way of

* The editor of Wilson's Poems, which were published at Paisley in 1816, gives what he states to be an extract from one of our author's letters to his father, wherein it is said that he had travelled through West Florida to New Orleans, and had "sailed thence to East Florida, furnished with a letter to the Spanish governor." This passage needs explanation. Wilson was never either in East or West Florida (except a small part of the latter province, through which the road to New Orleans passed); but, in the event of his going thither, had provided himself with a letter of introduction from Don Luis de Onis, the Spanish ambassador to the United States, to Don Enrique White, Governor of East Florida, and another to Don Vincente Folche, Governor of West Florida. In his passage from New Orleans to New York, he merely landed, for a few minutes, upon one or two desert islands lying in the Florida Gulf.

He departed from Philadelphia on the thirtieth of January, 1810; and returned on the second of August, of the same year. It is stated in his diary that the total amount of his expenses, until his arrival in New York, was the sum of four hundred and fifty-five dollars. This particular is given as a proof of how much may be performed, by a good economist, with slender means.

subscriptions. Yet he was not only honored with the names of some respectable individuals; but also received hospitable treatment from several persons, and those, too, to whom he had not been introduced. It is a singular fact, that from those to whom he had letters of introduction, and from whom most had been expected, he received the fewest acts of civility.

The principal events of his journey have been given in his letters; but I might select from his diary many interesting passages, if the limits allotted to this memoir would admit of copiousness of detail.

It is not unusual for scholars to keep diaries when they travel. These writings are commonly the objects of great curiosity, as we are all anxious to know what were the impressions which the incidents of a journey made upon the mind, when it was in the fittest state to receive them.

For the gratification of the reader, I will make a few short extracts from Wilson's journal, as specimens of his mode of writing these unstudied narratives.

March 9.—Visited a number of the literati and wealthy of Cincinnati, who all told me that they would think of it, viz. of subscribing: they are a very thoughtful people.

"March 17.—Rained and hailed all last night, set off at eight o'clock, after emptying my boat of the deluge of water. Rowed hard all day; at noon recruited myself with some biscuits, cheese and American wine. Reach the falls—night sets in—hear the roaring of the rapids. After excessive hard work arrive at Beargrass creek; and fasten my boat to a Kentucky one. Take my baggage and grope my way to Louisville—put up at the Indian Queen tavern, and gladly sit down to rest myself.

"March 18.—Rose quite refreshed. Found a number of land speculators here. Titles to lands in Kentucky subject to great disputes.

"March 19.—Rambling round the town with my gun. Examined Mr. —'s drawings in crayons—very good. Saw two new birds he had, both *Motacillæ*.

"March 20.—Set out this afternoon with the gun—killed nothing new. People in taverns here devour their meals. Many shopkeepers board in taverns—also boatmen, land speculators, merchants, &c. *No naturalist to keep me company.*

"March 21.—Went out this afternoon shooting with Mr. A. Saw a number of sandhill cranes. Pigeons numerous.

"March 23.—Packed up my things which I left in the care of a merchant here, to be sent on to Lexington; and having parted, with great regret, with my paroquet, to the gentlemen of the tavern, I bade adieu to Louisville, to which place I had four letters of recommendation, and was taught to expect much of everything there; but neither received one act of civility from those to whom I was recommended, one subscriber, nor *one new bird*; though I delivered my letters, ransacked the woods repeatedly, and visited all the characters likely to subscribe. *Science or literature has not one friend in this place.* Every one is so intent on making money that they can talk of nothing else;

and they absolutely devour their meals that they may return the sooner to their business. Their manners correspond with their features.

"Good country this for lazy fellows: they plant corn, turn their pigs into the woods, and in the autumn feed upon corn and pork—they lounge about the rest of the year.

"March 24.—Weather cool. Walked to Shelbyville to breakfast. Passed some miserable log-houses in the midst of rich fields. Called at a 'Squire C.'s, who was rolling logs. Sat down beside him, but was not invited in, though it was about noon.

"March 29.—Finding my baggage not likely to come on, I set out from Frankfort for Lexington. The woods swarm with pigs, squirrels, and wood-peckers. Arrive exceedingly fatigued.

"Wherever you go you hear people talking of buying and selling land; no readers, all traders. The Yankees, wherever you find them, are all traders. Found one here, a house carpenter, who came from Massachusetts, and brought some barrels of apples down the river from Pennsylvania to this town, where he employs the negro women to hawk them about the streets, at thirty-seven and a half cents per dozen.

"Restless, speculating set of mortals here, full of lawsuits, no great readers, even of politics or newspapers.

"The sweet courtesies of life, the innumerable civilities in deeds and conversation, which cost one so little, are seldom found here. Every man you meet with has either some land to buy or sell, some lawsuit, some coarse hemp or corn to dispose of; and if the conversation do not lead to any of these he will force it. Strangers here receive less civilities than in any place I have ever been in. The respect due to the fatigues and privations of travellers is nowhere given, because every one has met with as much, and thinks he has seen more than any other. No one listens to the adventures of another, without interrupting the narrative with his own; so that, instead of an auditor, he becomes a competitor in adventure-telling. So many adventurers, also, continually wandering about here, injure the manners of the people, for avarice and knavery prey most freely and safely upon passengers whom they may never meet again.

"These few observations are written in Salter White's garret, with little or no fire, wood being a scarce article here—the forests being a full *half mile* distant.

"April 9.—Court held to-day, large concourse of people; not less than one thousand horses in town, hitched to the side-posts—no food for them all day. Horses selling by auction. Negro woman sold same way: my reflections while standing by and hearing her cried, 'three hundred and twenty-five dollars for this woman and boy! going! going!' Woman and boy afterwards weep. Damned, damned slavery! this is one infernal custom which the Virginians have brought into this country. Rude and barbarous appearance of the crowd. Hopkins's double cutters much wanted here.

"April 10.—Was introduced to several young ladies this afternoon, whose agreeable society formed a most welcome contrast to that of the lower orders of the other sex. Mrs. * * *, an amiable, excellent lady; think that savage

ignorance, rudeness, and boorishness, were never so contrasted by female sweetness, affability, and intelligence.

"April 12.—Went this evening to drink tea with Mr. * * *; was introduced to Mrs. * * *, a most lovely, accomplished and interesting woman. Her good sense and lively intelligence of a cast far superior to that of almost any woman I have ever seen. She is most unfortunately unwell with a nervous complaint, which affects her head. She told me, most feelingly, that the spring, which brings joy to every other being, brings sorrow to her, for in winter she is always well.

"April 25.—Breakfasted at Walton's, thirteen miles from Nashville. This place is a fine, rich hollow, watered by a charming, clear creek, that never fails. Went up to Madison's Lick, where I shot three paroquets and some small birds.

"April 26.—Set out early, the hospitable landlord, ISAAC WALTON, refusing to take anything for my fare, or that of my horse, saying: *'You seem to be travelling for the good of the world; and I cannot, I will not charge you anything. Whenever you come this way, call and stay with me; you shall be welcome!'* This is the first instance of *such** hospitality which I have met with in the United States.

"Wednesday, May 23.—Left Natchez, after procuring twelve subscribers; and having received a kind letter of invitation from William Dunbar, Esq., I availed myself of his goodness, and rode nine miles along the usual road to his house; where, though confined to his bed by a severe indisposition, I was received with great hospitality and kindness; had a neat bedroom assigned me; and was requested to consider myself as at home during the time I should find it convenient to stay in exploring this part of the country."

The letter above mentioned, which is now before me, is 'worthy of transcription:

"FOREST, 20th May, 1810.

"Sir.

"It is very unfortunate that I should be so much indisposed as to be confined to my bedroom; nevertheless, I cannot give up the idea of having the pleasure of seeing you as soon as you find it convenient; the perusal of your first volume of Ornithology, lent me by General Wilkinson, has produced in me a very great desire of making your acquaintance.

"I understand, from my boy, that you propose going in a few days to New Orleans, where you will see some small cabinets of natural history that may interest you. But, as I presume it is your intention to prosecute your inquiries into the interior of our country, this cannot be done better than from my house, as your head-quarters; where everything will be made convenient to your wishes. My house stands literally in the forest, and your beautiful orioles, with other elegant birds, are our courtyard companions.

* The editor of Wilson's Poems, in quoting this paragraph, omitted the word *such*, thereby intending to convey a charge of the want of hospitality in the American character, which our author rarely experienced. Wilson's meaning is sufficiently obvious without comment.

"The bearer attends you, with a couple of horses, on the supposition that it may be convenient for you to visit us to-day; otherwise he shall wait upon you any other day that you shall appoint.

"I am respectfully, &c.,

"WILLIAM DUNBAR."

This excellent gentleman, whose hospitality was thus promptly excited, has since paid the debt of nature; and his grateful guest fondly cherished, to the last hour of his existence, the remembrance of those happy moments which had been passed in his society, and that of his amiable and accomplished family.

TO MR. WILLIAM BARTRAM.

"PHILADELPHIA, September 2d, 1810.

"Incessant labor since my return, to make up my loss of drawings, which were sent by post from Nashville, has hitherto prevented me from paying you a visit. I am closely engaged on my third volume. Any particulars relative to the history of the meadow-lark, crow black-bird, snow-bunting, cuckoo, paroquet, nonpareil, pinnated grouse, or blue grosbeak, if interesting, would be received by me with much pleasure. I have lately received from Michaux a number of rich specimens of birds, printed in colors. I have since made some attempts at this kind of printing, and have succeeded tolerably well.

"Michaux has published several numbers of his *American Sylva*, in Paris, with colored plates. I expect them here soon.

"I collected a number of entire new species in my south-western tour; and in my return I visited several of the islands off the Florida shore, where I met with some very curious land birds.

"Mr. Dunbar, of Natchez, remembered you very well, and desired me to carry his good wishes to you."

TO MR. WM. DUNCAN, FRANKFORD, PENN.

"PHILADELPHIA, February 12th, 1811.

"So you have once more ascended the preceptor's rostrum, to wield the terrors of the *taus* and *hickory*. Trying as this situation is, and various and distracting as its avocations sometimes undoubtedly are, it is elysium to the scenes which you have lately emerged from; and as far transcends these latter, as honorable independence towers above despised and insulted servitude. You wish me to suggest any hints I may think proper for your present situation. Your own experience and prudence render anything I could advise unnecessary, as it is all included in the two resolutions which you have already taken; first, to distinguish, as clearly as possible, the whole extent of your duty; and, secondly, to fulfil every item of that to the best of your abilities. Accordingly, the more extensive and powerful these are, the greater good you will be capable of doing; the higher and more dignified will your reputation be; and the easier and calmer will your deportment be, under every circumstance of duty. You have but these two things to surmount, and the whole routine of teaching will become an agreeable amusement; and every closing day will shed over your mind that blissful tranquillity, 'which nothing earthly gives or can destroy.'

"Devote your whole time, except what is proper for needful exercise, to rendering yourself completely master of your business. For this purpose rise by the peep of dawn; take your regular walk; and then commence your stated studies. Be under no anxiety to hear what people think of you, or of your tutorship; but study the improvement, and watch over the good conduct, of their children consigned to your care, as if they were your own. Mingle respect and affability with your orders and arrangements. Never show yourself feverish or irritated; but preserve a firm and dignified, a just and energetic deportment, in every emergency. To be completely master of one's business, and ever anxious to discharge it with fidelity and honor, is to be great, beloved, respectable, and happy.

"I could have wished that you had been accommodated with a room and boarding in a more private and retired situation, where your time and reflections would have been more your own; and perhaps these may be obtained hereafter. Try to discover your own defects, and labor with all your energy to supply them. Respect yourself, and fear nothing but *vice* and *idleness*. If one had no other reward for doing one's duty, but the grateful sensations arising therefrom on the retrospection, the recompense would be abundant, as these alone are able to bear us up amidst every reverse.

* * * * *

"At present I cannot enlarge further, my own mind being harassed with difficulties relative to my publication. I have now no further dependence on Murray; and I mean to make it consistent both with the fame, and the interest, of Lawson to do his best for me. I hope you will continue to let me hear from you, from time to time. I anticipate much pleasure from the improvements which I have no doubt you will now make in the several necessary departments of your business. Wishing you every success in your endeavors to excel, I remain, with sincere regard, &c."

In the early part of the year 1812, Wilson published his fifth volume; and, as the preface is interesting, we here insert an extract from it, for the gratification of the reader.

"The fifth volume of this extensive work is submitted to the public with all due deference and respect; and the author having now, as he conjectures, reached the middle stage of his journey, or in traveller's phrase, the 'half-way house,' may be permitted to indulge himself with a slight retrospect of the ground he has already traversed, and a glimpse of that which still lies before him.

"The whole of our Land Birds (those of the sixth volume included, which are nearly ready for the press) have now been figured and described, probably a very few excepted, which, it is hoped, will also shortly be obtained. These have been gleaned up from an extensive territory of woods and fields, unfrequented forests, solitary ranges of mountains, swamps and morasses, by successive journeys and excursions of more than ten thousand miles. With all the industry which a single individual could possibly exert, several species have doubtless escaped him. These, future expeditions may enable him to procure; or the kindness of his distant literary friends obligingly supply him with.

"In endeavoring to collect materials for describing truly and fully our feathered tribes, he has frequently had recourse to the works of those European naturalists who have written on the subject; he has examined their pages with an eager and inquisitive eye; but his researches in that quarter have been but too frequently repaid with disappointment, and often with disgust. On the subject of the *manners* and *migrations* of our birds, which in fact constitute almost the only instructive and interesting parts of their history, all is a barren and a dreary waste. A few vague and formal particulars of their size, specific marks, &c., accompanied sometimes with figured representations that would seem rather intended to caricature than to illustrate their originals, is all that the greater part of them can boast of. Nor are these the most exceptionable parts of their performances; the novelty of fable, and the wildness of fanciful theory, are frequently substituted for realities; and *conjectures* instead of *facts* called up for their support. Prejudice, as usual, has in numerous instances united with its parent, ignorance, to depreciate and treat with contempt what neither of them understood; and the whole interesting assemblage of the feathered tribes of this vast continent, which in richness of plumage, and in strength, sweetness and variety of song, will be found to exceed those of any other quarter of the globe, are little known save in the stuffed cabinets of the curious, and among the abstruse pages and technical catalogues of dry systematic writers.

"From these barren and musty records, the author of the present work has a thousand times turned with a delight bordering on adoration, to the magnificent repository of the woods and fields—the *Grand Aviary of Nature*. In this divine school he has studied from no vulgar *copy*; but from the works of the GREAT MASTER OF CREATION himself; and has read with rapture the lessons of his wisdom, his goodness and his love, in the conformation, the habits, melody and migrations of this beautiful portion of the work of his hands. To communicate as correct ideas of these as his feeble powers were capable of, and thus, from objects, that, in our rural walks, almost everywhere present themselves, to deduce not only amusement and instruction, but the highest incitements to virtue and piety, have been the author's most anxious and ardent wish. On many of his subjects, indeed, it has not been in his power to say much. The recent discovery of some, and the solitary and secluded habits of others, have opposed great obstacles to his endeavors in this respect. But a time is approaching when these obstacles will no longer exist. When the population of this immense western Republic will have diffused itself over every acre of ground fit for the comfortable habitation of man—when farms, villages, towns and glittering cities, thick as the stars in a winter's evening, overspread the face of our beloved country, and every hill, valley and stream has its favorite name, its native flocks and rural inhabitants; then, not a warbler shall flit through our thickets, but its name, its notes and habits will be familiar to all; repeated in their sayings, and celebrated in their village songs. At that happy period, should any vestige or memory of the present publication exist, be it known to our more enlightened posterity, as some apology for the deficiencies of its author, that in the period in which he wrote, three-fourths of our feathered tribes were altogether unknown even to the proprietors

of the woods which they frequented—that without patron, fortune or recompense, he brought the greater part of these from the obscurity of ages, gave to each ‘a local habitation and a name’—collected from personal observation whatever of their characters and manners seemed deserving of attention; and delineated their forms and features, in their native colors, as faithfully as he could, as records, at least, of their existence.

“In treating of those birds more generally known, I have endeavored to do impartial justice to their respective characters. Ignorance and stubborn-rooted opinions, even in this country, have rendered some odious that are eminently useful; and involved the manners of others in fable and mystery, which in themselves are plain and open as day. To remove prejudices when they oppose themselves to the influence of humanity is a difficult, but, when effected, a most pleasing employment. If therefore, in divesting this part of the natural history of our country of many of its fables and most forbidding features, and thus enabling our youth to become more intimately acquainted with this charming portion of the feathered creation, I should have succeeded in multiplying their virtuous enjoyments, and in rendering them more humane to those little choristers, how gratifying to my heart would be the reflection! For to me it appears that, of all inferior creatures, Heaven seems to have intended birds as the most cheerful associates of man; to soothe and exhilarate him in his labors by their varied melody, of which no other creature, but man, is capable; to prevent the increase of those supernumerary hosts of insects that would soon consume the products of his industry; to glean up the refuse of his fields, ‘that nothing be lost,’ and, what is of much more interest, to be to him the most endearing examples of the tenderest connubial love and parental affection.”

TO MR. F. A. MICHAUX.

“PHILADELPHIA, June 6th, 1812.

“My Dear Friend.

“I had the pleasure of receiving a letter from you, dated April 10, 1812; but, living at Mr. Bartram’s, I have not yet seen Mr. Correa, the gentleman who brought it over. I have also had the great satisfaction of examining the plates of your four numbers of *Forest Trees*, which are beautifully executed; and I regret most sincerely that my little knowledge of the French language* prevents me from perusing with equal satisfaction the interesting particulars you relate of their history. I expected long before this to be able to congratulate you on the publication of a translation of your work here, and I announced the same in the preface to one of my volumes; but sorry I am to inform you that no steps have yet been taken to put that design in execution, and I fear none will be taken for many months to come. Unless there be an evident certainty of profit, booksellers, in general, are very indifferent to publish

* Wilson’s ignorance of French was a great disadvantage to him; and he never ceased to regret his want of instruction in a tongue, which is considered not only important to the scholar, but indispensable to the naturalist. The number of works, in the various departments of Natural History, which France annually produces, is truly astonishing; and fortunate is that student whose acquirements in her language enable him to profit of the knowledge of this illustrious nation.

works of any kind, however great their merits may be; and the poor author's feelings are little regarded. Few men have known this more experimentally than myself. I have sacrificed everything to publish my Ornithology—have written six volumes, and am engaged on the seventh. * * *

"I have frequently conversed with Mr. Bradford about publishing a translation of your Forest Trees; and you may rest assured that, should it be undertaken, I will use all my influence in its favor. Were you here yourself, I have no doubt but it would be undertaken, and I think with success, for all who have seen it admire it. I procured our good friend, Mr. Wm. Bartram, a sight of it, and he was greatly delighted with its appearance. One of my friends read a great part of it in *English* to him, and he was highly satisfied. * * *

"Dr. Barton has not yet published his *General Zoology*,* which he has been announcing, from time to time, for so many years. It is much easier to say these things than do them. * * *

"Mr. Wm. Bartram is still as you left him, and you are frequently the subject of our conversation at table. I have made many extensive excursions lately, and have discovered, in all, about *forty* new species of Land Birds, never taken notice of by any other writer. I am now engaged on the Water Birds; and had just returned yesterday from the seashore when your letter was presented to me. Dr. H. and Mr. P. have both publicly announced your work, but, as no translation has been yet made, it has not been reviewed by any of our writers. * * *

"Wishing you all the success which is justly due to the labors, journeys, and investigations, you have made in behalf of Natural History, I remain, &c."

In September, 1812, Wilson undertook a journey into the eastern states, for the purpose of visiting his subscribers, and settling accounts with his agents.

TO MR. GEORGE ORD.

"BOSTON, October 13th, 1812.

"Dear Sir.

"It is not in my power at present to give you anything more than a slight sketch of my rambles since leaving Philadelphia. My route up the Hudson afforded great pleasure, mingled with frequent regret that you were not along with me, to share the enjoyment. About thirty miles south of Albany we passed within ten miles of the celebrated Catskill Mountains, a gigantic group, clothed with forest to the summits. In the river here I found our common

* This work, which it was the intention of the late learned professor to entitle "*Elements of Zoology*," after being *ten* years in the press, was advanced no further than *fifty-six* pages, in octavo, at the death of the author. It does not appear that he left much manuscript matter in continuation, consequently the public will derive no benefit from a work, which is too incomplete for publication. The printed sheets I have read, not only with satisfaction, but instruction; and cannot forbear expressing my regret that an undertaking, which Dr. Barton certainly knew how to perform, and to which his learning was adequate, should have been suffered to perish in embryo. The art of concentrating his talents, was one for which the professor was not greatly distinguished.

reed (*Zizania^a aquatica*) growing in great abundance in shoals extending along the middle of the river. I saw flocks of Red-wings, and some Black Ducks, but no Rail, or Reed-birds.

* * * *

"From this place my journey led me over a rugged, mountainous country, to Lake Champlain, along which I coasted as far as Burlington, in Vermont. Here I found the little Coot-footed Tringa or Phalarope* that you sent to Mr. Peale; a new and elegantly-marked Hawk; and observed some Black Ducks. The shores are alternate sandy bays, and rocky headlands running into the lake. Every tavern was crowded with officers, soldiers, and travellers. Eight of us were left without a bed; but having an excellent great-coat, I laid myself down in a corner, with a determination of sleeping in defiance of the uproar of the house, and the rage of my companions, who would not disgrace themselves by a prostration of this sort.

* * * *

"From Lake Champlain I traversed a rude mountainous region to Connecticut river, one hundred miles above Dartmouth College. I spent several days with the gun in Groton, and Ryegate townships, and made some discoveries. From this I coasted along the Connecticut to a place called Haverhill, ten miles from the foot of Moose-hillock, one of the highest of the *White Mountains* of New Hampshire. I spent the greater part of a day in ascending to the peak of one of these majestic mountains, whence I had the most sublime and astonishing view that was ever afforded me. One immensity of forest lay below, extended on all sides to the farthest verge of the horizon; while the only prominent objects were the columns of smoke from burning woods, that rose from various parts of the earth beneath to the heavens; for the day was beautiful and serene. Hence I travelled to Dartmouth, and thence in a direct course to Boston. From Boston I passed through Portsmouth to Portland, and got some things new; my return was by a different route. I have procured three new and beautiful Hawks; and have gleaned up a stock of remarks that will be useful to me hereafter.

"I hope, my dear sir, that you have been well since I left you. I have myself been several times afflicted with a violent palpitation of the heart,† and want to try whether a short voyage by sea will not be beneficial.

"In New England the rage of war, the virulence of politics, and the pursuit of commercial speculations, engross every faculty. The voice of Science, and the charms of Nature, unless these last present themselves in the form of *prize sugars, coffee, or rum*, are treated with contempt."

The excursion to the White Mountains, above mentioned, was succeeded by rather an unpleasant occurrence. The good people of Haverhill perceiving a stranger among them of very inquisitive habits, and who evinced great zeal in exploring the country, sagaciously concluded that he was a spy from Canada,

* *P. Fulicarius*.

† This distressing disease, so well known to the literary student, Wilson was often afflicted with.

employed in taking sketches of the place, to facilitate the invasion of the enemy. Under these impressions it was thought conducive to the public safety that Wilson should be apprehended; and he was accordingly taken into the custody of a magistrate, who, on being made acquainted with his character, and the nature of his visit, politely dismissed him, with many apologies for the mistake.

The publication of the *Ornithology* now advanced as rapidly as a due regard to correctness and elegance would admit. In order to become better acquainted with the feathered tribes, and to observe their migrations with more accuracy, as well as to enjoy the important advantages of a rural retirement, Wilson resided the better part of the years 1811–12 at the Botanic Garden of his friend, Mr. Bartram. There removed from the noise, bustle, and interruption of the metropolis, he was enabled to dispose of his time to the best advantage; for when fatigued with close application within doors, to recruit his mind and body he had only to cross the threshold of his abode, and he at once found himself surrounded with those acquaintance, the observing of whose simple manners not only afforded the most agreeable recreation, but who were perpetually contributing to the great undertaking which he was earnestly laboring to complete.

In the month of March, 1812, Wilson was chosen a member of the Society of Artists of the United States; but in the spring of the succeeding year, a greater honor was conferred upon him, by his being elected a member of the American Philosophical Society of Philadelphia.

TO MR. WM. BARTRAM.

“PHILADELPHIA, April 21st, 1813.

“My Dear Friend.

“I have been extremely busy these several months, my colorists having all left me; so I have been obliged to do extra duty this last winter. Next week I shall publish my seventh volume; and shall send you your copy with the earliest opportunity. I am now engaged with the ducks, all of which, that I am acquainted with, will be comprehended in the eighth volume.

“Since I had the pleasure of seeing you, I have hardly left the house half an hour; and I long most ardently to breathe once more the fresh air of the country, and gaze on the lovely face of Nature. Will it be convenient for the family to accommodate me (as I shall be alone) this summer? Please to let me know.

“I lately received from the celebrated Mr. West, a proof impression of his grand historical picture of the death of Admiral Nelson—a present which I highly value.

“The Philosophical Society of Philadelphia have done me the honor to elect me a member, for which I must certainly, in gratitude, make them a communication on some subject, this summer. I long very much to hear from you; and, with my best wishes for your health and happiness, am very truly

“Your sincere friend.”

As soon as the seventh volume of the *Ornithology* was published, its author, and the writer of this sketch, set out on their last expedition to Great Egg

Harbor.* There they remained for nearly four weeks, constantly occupied in collecting materials for the eighth volume, which Wilson had resolved should in no respects fall short of the preceding; but which should, if possible, enhance his reputation, by the value of its details, and the beauty of its embellishments.

Immediately on his return to Philadelphia, he engaged anew in his arduous avocation; and by the month of August he had succeeded in completing the letter-press of the eighth volume, though the whole of the plates were not finished. But unfortunately his great anxiety to conclude the work, condemned him to an excess of toil, which, inflexible as was his mind, his bodily frame was unable to bear. He was likewise, by this flood of business, prevented from residing in the country, where hours of mental lassitude might have been beguiled by a rural walk, or the rough but invigorating exercise of the gun. At length he was attacked by a disease, which, perhaps, at another period of his life might not have been attended with fatal effects, but which now, in his debilitated state of body, and harassed mind, proved a mighty foe, whose assaults all the combined efforts of friendship, science and skill, could not repel. The dysentery, after a sickness of ten days, closed the mortal career of Alexander Wilson, on the twenty-third of August, 1813.

It may not be going too far to maintain, that in no age or nation has there ever arisen one more eminently qualified for a naturalist than the subject of these memoirs. He was not only an enthusiastic admirer of the works of creation, but he was consistent in research; and permitted no dangers or fatigues to abate his ardor, or relax his exertions. He inured himself to hardships by frequent and laborious exercise; and was never more happy than when employed in some enterprise, which promised from its difficulties the novelties of discovery. Whatever was obtained with ease, to him appeared to be attended, comparatively speaking, with small interest: the acquisitions of labor alone seemed worthy of his ambition. He was no closet philosopher—exchanging the frock of activity for the night-gown and slippers. He was indebted for his ideas, not to books, which err, but to Nature which is infallible; and the inestimable transcript of her works, which he has bequeathed to us, possesses a charm which affects us the more, the better acquainted we become with the delightful original. His inquisitive habits procured him from others a vast heterogeneous mass of information; but he had the happy talent of selecting from this rubbish whatever was valuable. His perseverance was uncommon; and when engaged in pursuit of a particular object, he would never relinquish it, while there was a chance of success. His powers of observation were very acute, and he seldom erred in judgment, when favored with a fair opportunity of investigation.

Credulity has been aptly termed “the vice of naturalists;” but it may be said, to the honor of our author, that it would be difficult to find one less infected with this vice than himself. His mind, strongly imbued with common sense, and familiar with the general laws of nature, could not be imposed upon

* Wilson made six journeys to the coast of New Jersey, in pursuit of water-birds, which abound in the neighborhood of Great Egg Harbor.

by appearances; and marvellous narratives, in that science which he had so much at heart, were the objects of his decided disapprobation. The ridicule and scorn with which he treated the hypothesis of the annual torpidity of swallows are well known; and he regarded with equal contempt those tales of the fascinating faculty attributed to serpents, which are yet but too well adapted to the taste of the multitude to be effectively discredited.

Having been "something of a traveller," it would be reasonable to conclude that Wilson had been familiar with "novel sights;" but we nowhere find that he ever beheld a toad leaping into day from its rocky domicile of five thousand years, or a mermaid "sleeking her soft alluring locks" in the sun. That wonder of the "vasty deep," the *Sea Serpent* of Gloucester, had not attracted the attention of the public in his time; but if it had, there is little doubt that he would have promptly exerted himself to expose one of the grossest fictions that was ever palmed upon the credulity of mankind.

That the industry of Wilson was great, his work will for ever testify. And our admiration is excited, that so much should have been performed in so short a time. When we take into consideration the state of our country, as respects the cultivation of the physical sciences; and that in the walk of Ornithology, particularly, no one, *deserving the title of a Naturalist*, had yet presumed to tread; when we view the labors of foreigners, who had interested themselves in our natural productions, and find how incompetent they were, through a deficiency of correct information, to instruct; and then when we reflect that a single individual, "*without patron, fortune, or recompense*," accomplished, in the space of *seven years*, as much as the combined body of European naturalists took a *century* to achieve, we feel almost inclined to doubt the evidence upon which this conclusion is founded. But it is a fact, which we feel a pride in asserting, that we have as faithful, complete, and interesting, an account of *our birds*, in the volumes of the American Ornithology, as the Europeans can at this moment boast of possessing of *theirs*. Let those who question the correctness of this opinion examine for themselves, and determine according to the dictates of an unbiassed judgment.

We need no other evidence of the unparalleled industry of our author, than the fact, that of *two hundred and seventy-eight species*, which have been figured and described in his Ornithology,* *fifty-six* had not been taken notice of by any former naturalist;† and several of the latter number are so extremely rare,

* The whole number of birds figured is three hundred and twenty.

† In this statement of the number of new species, I followed Wilson's own catalogue, wherein they are indicated. But it is proper to observe, that Vieillot's "*Oiseaux de L'Amérique Septentrionale*" was never seen by our author; otherwise he would have taken notice that some of his supposed nondescripts were figured and described in the above-mentioned costly work, which was published in Paris in the year 1807. Vieillot travelled in the United States, with the view of giving an account of our birds; he published only two folio volumes, with colored plates; his publisher failed; and the copper-plates of the work, including those intended for the third volume, were sold at public sale for *old copper*; and are now (1825) in Philadelphia, and the property of William Maclure, Esq., the President of the Academy of Natural Sciences of Philadelphia.

that the specimens, from which the figures were taken, were the only ones that he was ever enabled to obtain. This expensive collection of birds was the result of many months of unwearied research, amongst forests, swamps and morasses, exposed to all the dangers, privations and fatigues, incident to such an undertaking. What but a remarkable passion for the pursuit, joined with the desire of fame, could have supported a solitary individual, in labors of body and mind, compared to which the bustling avocations of common life are mere holiday activity or recreation!

Independent on that part of his work which was Wilson's particular province, viz. the drawing and describing of his subjects, he was necessitated to occupy much of his time in coloring the plates; his sole resource for support being in this employment, as he had been compelled to relinquish the superintendence of the Cyclopædia. This drudgery of coloring the plates is a circumstance much to be regretted, as the work would have proceeded more rapidly if he could have avoided it. One of his principal difficulties, in effect, and that which caused him no small uneasiness, was the process of coloring. If this could have been done solely by himself; or, as he was obliged to seek assistance therein, if it could have been performed immediately under his eye, he would have been relieved of much anxiety; and would have better maintained a due equanimity; his mind being daily ruffled by the negligence of his assistants, who too often, through a deplorable want of skill and taste, made disgusting caricatures of what were intended to be modest imitations of simple nature.* Hence much of his precious time was spent in the irksome employment of inspecting and correcting the imperfections of others. This waste of his stated periods of labor, he felt himself constrained to compensate, by encroachments on those hours which Nature, tenacious of her rights, claims as her own: hours which she consecrates to rest—which she will not forego without a struggle; and which all those, who would preserve unimpaired the vigor of their mind and body, must respect. Of this intense and destructive application his friends failed not to admonish him; but to their kind remonstrances he would reply, that "life is short, and without exertion nothing can be performed."

* In the preface to the third volume, Wilson states the anxiety which he had suffered on account of the coloring of the plates; and of his having made an arrangement, whereby his difficulties on that score had been surmounted. This arrangement proved in the end of greater injury than benefit.

The art of printing in colors is but little known in our country, and seldom practised; and the few attempts that have been made have only partially succeeded. An experiment of this nature was undertaken upon several plates of this work, but with a success by no means satisfactory. When Wilson commenced his labors, everything relating to them was new to him: and the difficulty of fixing the proper tints, upon an uniform black ground, was the greater, inasmuch as he had to experiment himself, unaided by the counsel or example of those to whom the process was familiar.

The writer of this narrative has thought it his duty to state *some* of the embarrassments under which Wilson labored, in the department of coloring the plates, in order to obviate criticisms, which too many are disposed to make, on supposed faults; but if *all* the difficulties were made known, there would be no fear for the result, among readers of candor and understanding.

But the true cause of this extraordinary toil was his poverty. By the terms of agreement with his publisher, he was to furnish at his own cost, all the drawings and literary matter for the work ; and to have the whole under his control and superintendence. The publisher stipulated to find funds for the completion of the volumes. To support the heavy expense of procuring materials, and other unavoidable expenditures, Wilson's only resource, as has been stated, was in coloring the plates.

In the preface to the fifth volume he observes : "The publication of an original work of this kind, in this country, has been attended with difficulties, great, and, it must be confessed, sometimes discouraging to the author, whose only reward *hitherto* has been the favorable opinion of his fellow-citizens, and the pleasure of the pursuit.

"Let but the generous hand of patriotism be stretched forth to assist and cherish the rising arts and literature of our country, and both will most assuredly, and that at no remote period, shoot forth, increase and flourish, with a vigor, a splendor and usefulness, inferior to no other on earth."

We have here an affirmation that the author had labored without reward, except what was conferred by inefficient praise ; and an eloquent appeal to the *generosity* and *patriotism* of his fellow-citizens. Seven illustrious cities disputed the honor of having given *birth* to the Prince of Epic song. Philadelphia first beheld that phenomenon, the "American Ornithology," rising amidst her boasted opulence, to vindicate the claims of a calumniated portion of creation ; and to furnish her literary pride with a subject of exultation for ages to come. Yet duty calls upon us to record a fact, which may cause our native city to feel the glow of shame. Of all her literati, her men of benevolence, taste and riches, SEVENTY only, to the period of the author's decease, had the liberality to countenance him by a subscription, more than half of whom were *tradesmen*, *artists*, and persons of the middle class of society ; whilst the little city of New Orleans, in the short space of *seventeen days*, furnished SIXTY subscribers to the "American Ornithology !"

Wilson was possessed of the nicest sense of honor. In all his dealings he was not only scrupulously just, but highly generous. His veneration for truth was exemplary. His disposition was social and affectionate. His benevolence was extensive. He was remarkably temperate in eating and drinking, his love of study and retirement preserving him from the contaminating influence of the convivial circle. But as no one is perfect, Wilson in a small degree partook of the weakness of humanity. He was of the *genus irritabile*, and was obstinate in opinion. It ever gave him pleasure to acknowledge error, when the conviction resulted from his own judgment alone, but he could not endure to be told of his mistakes. Hence his associates had to be sparing of their criticisms, through a fear of forfeiting his friendship. With almost all his friends he had occasionally, arising from a collision of opinion, some slight misunderstanding, which was soon passed over, leaving no disagreeable impression. But an act of disrespect he could ill brook, and a wilful injury he would seldom forgive.

In his person he was of a middle stature, of a thin habit of body ; his cheek-bones projected, and his eyes, though hollow, displayed considerable vivacity

and intelligence ; his complexion was sallow, his mien thoughtful ; his features were coarse, and there was a dash of vulgarity in his physiognomy, which struck the observer at the first view, but which failed to impress one on acquaintance. His walk was quick when travelling, so much so that it was difficult for a companion to keep pace with him ; but when in the forests, in pursuit of birds, he was deliberate and attentive—he was, as it were, all eyes, and all ears.

Such was Alexander Wilson. When the writer of this humble biography indulges in retrospection, he again finds himself in the society of that individual, whose life was a series of those virtues which dignify human nature ; he attends him in his wild-wood rambles, and listens to those pleasing observations, which the magnificence of creation was wont to give birth to ; he sits at his feet, and receives the instructions of one, in science, so competent to teach ; he beholds him in the social circle, and notes the complacency which he inspired in all around. But the transition from the past to the present quickens that anguish with which his heart must be filled, who casts a melancholy look on those scenes, a few years since endeared by the presence of one, united to him by a conformity of taste, disposition and pursuit, and who reflects that that beloved friend can revisit them no more.

It was the intention of Wilson, on the completion of his *Ornithology*, to publish an edition in four volumes octavo ; the figures to be engraved in wood, somewhat after the manner of Bewick's *British Birds* ; and colored with all the care that had been bestowed on the original plates. If he had lived to effect this scheme, the public would have been put in possession of a work of considerable elegance, as respects typography and illustrations ; wherein the subjects would have been arranged in systematical order ; and the whole at the cost of not more than one-fifth part of the quarto edition.

He likewise meditated a work on the quadrupeds of the United States ; to be printed in the same splendid style of the *Ornithology* ; the figures to be engraved with the highest finish, and by the best artists of our country. How much has science lost in the death of this ingenious and indefatigable naturalist !

His remains were deposited in the cemetery of the Swedish church, in the district of Southwark, Philadelphia. While in the enjoyment of health, he had conversed with a friend on the subject of his death, and expressed a wish to be buried in some rural spot, sacred to peace and solitude, whither the charms of nature might invite the steps of the votary of the Muses, and the lover of science, and where the birds might sing over his grave.

It has been an occasion of regret to those of his friends, to whom was confided the mournful duty of ordering his funeral, that his desire had not been made known to them, otherwise it should have been piously observed.

A plain marble tomb marks the spot where lie the ashes of this celebrated man ; it bears the following inscription :

“ This Monument
Covers the Remains of
ALEXANDER WILSON,
Author of the
AMERICAN ORNITHOLOGY.
He was born in Renfrewshire, Scotland,
On the 6 July, 1766;
Emigrated to the United States
In the Year 1794;
And Died in Philadelphia
Of the Dysentery,
On the 23 August, 1813,
Aged 47.”

I shall now offer some brief remarks upon those writings of Wilson, which have fallen under my notice; and in the performance of this task, it will become my duty to speak of a work, which I had hoped would be permitted to lie in oblivion, but which either the indiscreet partiality of friends, or the avarice of a publisher, has lately dragged forth to the view of the public. From the volume which the author published himself, in the year 1791, and which is entitled “ Poems, Humorous, Satirical, and Serious,” a selection was made, and published, in 1816, at Paisley and at London, under the title of “ Poems, Chiefly in the Scottish Dialect; by Alexander Wilson, Author of American Ornithology.” When I commenced reading this selection, it was my intention to note its beauties and defects; but when I found how greatly the latter predominated, it occurred to me that no good could result from a critical examination of a work which few would read, which contains nothing deserving of applause; and which, if it has hitherto escaped criticism, it is because it has been deemed unworthy of a deliberate investigation.

The early writings of but few authors are worthy of being read, except for the purpose of tracing the progress of the mind. When one surveys the work in question with this view, one is astonished to find no indication of that genius which is so conspicuous in after-life; a barrenness of invention, a poverty of expression, a deficiency of taste and judgment, are its characteristics.

The author of the “ Biographical Sketch,” appended to the Selection* above

* It appears by the advertisement affixed to this selection, that it “ was made and printed under the direction of a gentleman who has since paid the debt of nature;” and that “ it was his intention to give the life of Wilson.” If one were allowed to form a conjecture of the abilities of this editor, by the judgment displayed in his choice, one would have no reason to regret that his task was never accomplished. How he could admit such productions as “ The Wasp’s Revenge,” and the “ Verses on the Death of a Favorite Spaniel,” one may well inquire.

That Wilson himself entertained a mean opinion of his boyish publication, I am authorized to assert from the circumstance, that, though possessing a copy, he would never allow me to read it, notwithstanding I frequently urged him to grant me this favor.

An itinerant Scotchman once called upon Wilson’s executors, with a request that he might be allowed the privilege of printing an edition of his poems, urging, in justification of the proposition, his peculiar fitness, by his knowledge of the *Scottish dialect*, for

mentioned, says, "We have it from Wilson's acquaintance, that many of the poems he had written were committed to the flames, without a moment's consideration, because the subject had lost its interest with himself." The writer thus gravely accounts for this conduct: "This instability of conduct was, no doubt, the result of untoward circumstances, operating upon a mind ardent in the pursuit of something yet undefined, or uncertain of the path it should follow, to attain that eminence and independence after which it so ardently aspired." Would it not be a more rational supposition, that, as he advanced in knowledge, he was taught to reject what he could not but be convinced was unworthy of the public eye? If we may form a conjecture of what was destroyed, by what was sanctioned by his own act of publication, there is certainly no cause to mourn the loss; and one can hardly forbear wishing that the whole had met a similar fate.

Of all the poetical productions of Wilson, written while in Scotland, his tale of "Watty and Meg" is the only one that has obtained popularity. In Cromeke's "Select Scottish Songs" it is thus introduced: "The reader is here presented with an exquisite picture from low life, drawn with all the fidelity and exactness of Teniers, or Ostade, and enlivened with the humor of Hogarth. The story excites as much interest as if it had been written in a dramatic form, and really represented. The interest heightens as it proceeds, and is supported with wonderful spirit to the close of the poem.

"It must have been in no small degree gratifying to the feelings of the author, who published it anonymously, that, during a rapid sale of seven or eight editions, the public, universally, ascribed it to the pen of Burns. The author of 'Will and Jean; or, Scotland's Scaith,' had the candor to acknowledge to the editor that he was indebted to this exquisite poem for the foundation of that popular performance."

This tale is certainly told in a spirited manner; but whether it is entitled to all the encomiums which have been lavished upon it or not, may admit of a question. The incidents are all common-place: a dram-drinking husband seeking refuge, in an ale-house, from a scolding wife, who pursues him thither, and upbraids him, in no gentle terms, for deserting his home and family, and spending his time and substance among drunken blackguards. A pot companion had advised him to try the experiment of threatening to abandon her, in order to bring her into subjection: a scheme which had had a happy effect in taming

extending the *fame* of the author of the American Ornithology! It is needless to add that this poor schemer was dismissed with the reply, that the fame of Wilson did not stand in need of his assistance.

It is much to the honor of the American press, that it has abstained from reprinting the work, which, with unfeigned sorrow, I have been compelled, by a sense of duty, to animadvert so severely upon. But I must confess, that when a brother weaver, Robert Tannahill, was introduced to our notice, I trembled for the fate of Wilson.

As has been stated, Wilson's poem of the "Foresters" was first published in the *Port-Folio*. Shortly after the decease of its author, a very *modest* and *honest* gentleman, living in Pennsylvania, undertook its republication; and actually took out a *copyright* for the same. That the poem was reprinted need not excite our wonder; but that its sale should have been monopolized by a patent, is a trick of trade well worthy of remark.

his own wife, who had given evidence of a shrewish disposition. The experiment being made by Watty, Meg is brought to terms. She solemnly promises to keep her temper—never again to scold her husband—never to follow him to the beer-house—never to put drunken to his name—never to look sad when he shall come home late—never to kick his shins, or pull his hair;—and lastly she consents, with tears, that their hard earnings shall be kept solely by himself. The husband, rejoiced at this evidence of her humility and contrition, kisses her, and so the story ends.

In the management of this tale there is little art displayed; there is some natural description, it is true; but the laws of poetical justice are but ill observed, when misconduct so glaring as that of Watty's is passed over without censure; and he is allowed to triumph over the subjection of a poor woman, whose temper had become soured by his idleness and debauchery.

Such stories are not calculated to do good; on the contrary, they may promote vice; and surely the vice of intemperance is no trifling evil in society. To blend instruction with amusement, we are told, should be the aim of all writers of fiction, particularly poets, whose influence over the mind has always been predominant. It is justly remarked, by an elegant writer,* that "there seems to be something in poetry that raises the possessors of that very singular talent far higher in the estimation of the world in general, than those who excel in any other of the refined arts." Then let poets take heed lest they misapply those talents, which, if properly directed, may be made subservient to the best interests of society.

In justice to our author, I would remark, that, though fond of describing scenes of low life, with which his education and habits had rendered him familiar, yet he appeared to have escaped the contaminating influence of vulgar associates, when arrived at manhood. His conduct, in this country, was truly exemplary. This observation, though out of place, I here make, as it seems to belong, incidentally, to the subject upon which I have been commenting.

The last edition of Watty and Meg, published under the inspection of the author, and by him corrected, was that given in the Port Folio for October, 1810.

The poetic effusions of Wilson, after he came to America, afford evidence of an improved taste. He acquired a facility of versification by practice; as his mind expanded with knowledge, his judgment received an accession of strength; and he displays a fancy which we look for in vain in his juvenile essays. But we must be understood as comparing him only with himself, at different periods of his life. Whether or not he ever attained to positive excellence in poetry, may be a subject of dispute.

In his "Solitary Tutor," we are presented with a picture of himself, while occupied in teaching a country school. The description of his place of residence, his school-house, the adjoining forest, where many of his leisure hours were passed, and where he first commenced studying the manners of those birds, which he subsequently immortalized in his splendid work, is animated and graphical. The fabric of these verses reminds us of the Minstrel; and

* Melmoth's Fitzosborne, letter 53.

that he had this delightful poem in his eye, we are convinced by some of the descriptions and sentiments. The stanza beginning,

“ In these green solitudes, one favorite spot,”

is accurately descriptive of a place, in Bartram's woods, whither he used to retire for the purposes of reading and contemplation, and where he planned his *Ornithology*. Of the faults of this little poem I will merely remark, that the initial quatrain is prosaic; and that the last line betrays an unaccountable deficiency of taste.

The lovers of rural scenery will learn with regret, that this fine piece of forest, consecrated to the Muses of poetry and natural history, by Wilson, is fast disappearing beneath the axe of the husbandman. Already is the brook, which was “ o'erhung with alders and mantling vines,” exposed to the glare of day; the favorite haunts of the Wood Thrush are invaded; and, ere long, like his lamented historian, his place will be known there no more.

His poetical description of the Blue-bird, which originally appeared in the first volume of the *Ornithology*, has been copied into many publications, and still maintains its popularity. It contains some ill-constructed lines, and some rhymes so grossly defective, that we wonder how he could have tolerated them in a production of only half a dozen stanzas. The last quatrain of the fourth stanza contains false syntax; the construction is not regular and dependent, the adverb *so* being out of place. In the third stanza there is a grammatical error. Yet in this little poem, Wilson's happy talent of describing rural scenery, and the habits of birds, is conspicuous. The picture is charming, and more so to an American, who knows how beautifully accurate are its outlines. We see the disappearing of the snows of Winter; the busy labors of the fishermen; the wild geese laboring their airy way to the north; the lone butterfly fluttering over the meadows; the red maple buds bursting into life; and, finally, “ the herald of Spring,” the well-known blue-bird, hailing “ with his warblings the charms of the season.” The warm sunshine brings out the frogs from their retreats, and their piping is heard throughout the marshes; the woodland flowers unfold their charms to the eye; and the industrious housewives repair to their gardens. The useful bird is beheld flitting through the orchard in search of noxious insects, he drags the devouring grub from the newly-planted maize, and the caterpillars from their webs. The ploughman is pleased to behold him gleaning in his furrows, and the gardener suspends his labors to listen to his simple song. “ When all the gay scenes of the summer are o'er,” we observe him lingering about his native home, like a solitary outcast; we hear his melancholy adieu from the leafless branch, and mourn his departure as that of a beloved friend.

Of all Wilson's minor effusions this pleases me the most. Its imagery is derived from objects that are familiar to us, but yet it is not trite; none but an attentive observer of nature could have conceived it, and expressed it so naturally.

It appears to have been his intention to concentrate all his poetical powers in his “ *Foresters*,” resting his hope of fame chiefly upon this production. That the time spent in constructing it, might have been better employed in writing a simple prose narrative of a journey, which was fruitful of interesting

events, must be obvious to many of the readers of this poem, who are acquainted with the author's talents for description, and his appropriate diction, of which we are presented with examples in his letters and his Ornithology. On first reading this production such was my impression, and a reperusal has not induced me to change my opinion.

In his exordium he is not very happy :

“ Sons of the city ! ye whom crowds and noise
Bereave of peace, and Nature's rural joys.”

The noise of a crowded city may bereave its inhabitants of peace, but it is difficult to conceive how it can have a tendency to deprive them of the delights of the country.

In the account of his companions and himself he is too circumstantial, details of this kind correspond not well with the dignity of poetry :

“ An oilskin covering glittered round his head.”
“ A knapsack crammed by Friendship's generous care
With cakes and cordials, *drams* and dainty fare ;
Flasks filled with powder, leathern belts with shot,
Clothes, colors, paper, pencils,—and *what not*.”

Also in another place :

“ Full loaded peach trees drooping hung around,
Their mellow fruit thick scattered o'er the ground ;
Six cents procured us a sufficient store,
Our napkins crammed and pockets running o'er.”

Many of his rhymes are bad, particularly in the latter part of the poem, from the carelessness of the composition of which, one is led to conjecture that he was weary of his protracted labor. We have *tale* and *smile* ; *sent* and *want* ; *blest* and *past* ; *bespread* and *clad* ; and many other similar imperfections.

The conclusion of the poem is a specimen of slovenly and inaccurate composition :

“ And when some short and broken slumbers *came*
Still round us roaring swept th' outrageous *stream* ;
Whelmed in the *deep* we sunk *engulfed*, forlorn ;
Or down the dreadful rapids helpless borne ;
Groaning we start ! and at the *loudening war*,
Ask our bewildered senses where we *are*.”

In common with those who are ignorant of naval affairs, he commits a blunder in the use of the technical term *main-sheet*, mistaking it for a sail :

—— “ They trim their thundering sail,
The boom and *main-sheet* bending to the gale.”

The *main-sheet* is the rope by means of which the boom is governed, either eased off, or drawn in, as suits the state of the wind.

In a poem consisting of more than two thousand lines, it would be strange if some touches of excellence could not be found, some passages which prove that the author not only possessed poetical ideas, but also was familiar with the art of poetical expression. In his description of the calm, smoky, autumnal weather, which, in America, is usually denominated the *Indian Summer*, we are presented with a beautiful image, which I do not recollect to have seen elsewhere :

“Slow sailed the thistle-down along the lawn.”

The description of the Dutch farmer, and his habitation, would not disgrace the author of *Rip Van Winkle*.

In the enumeration of the miseries of a country schoolmaster there is much truth ; and the picture is vividly and feelingly drawn from nature. Few had more experience than Wilson of the degraded condition of a teacher, when under the control of the vulgar and ignorant ; a state compared with which the lot of the hewer of wood, and drawer of water, is truly enviable.

The account of *daddy Squares*, the settler, and that of *Pat Dougherty*, the shopkeeper and publican, contain some humor. The latter is a disgusting exhibition of one of those barbarians, whom the traveller often meets with in the interior of our country ; and whose ignorance, bestiality and vice, have the tendency to disabuse one on the subject of the virtue and happiness usually attributed to the inhabitants remote from our large cities, which, instead of being the only nurseries of corruption, as is believed and affirmed, are the great schools wherein science, literature, piety and manners, are most effectively taught, and most beneficially practised.

The sketch of the Indian hunter is entitled to praise, as being vigorous and picturesque ; and the description of the Bald or Gray Eagles, sailing amid the mist of the Cataract of Niagara, is a picture drawn with fidelity—it is poetical and sublime.

After this superficial review of the poems of Wilson, the question will naturally arise, ought we to consider him as one endued with those requisites, which entitle his productions to rank with the works of the poets, properly so called ? To write smooth and agreeable verses is an art of no very difficult purchase ; we see it daily exemplified by persons of education, whose leisure permits them to beguile a lonely hour with an employment at once delightful and instructive. But when one considers the temporary nature of the great mass of these fugitive essays, that they are read and remembered just so long as is the ephemeral sheet, or magazine, the columns of which they adorn ; one can form no high expectations of the long life of that poetry which seldom rises beyond mediocrity, which sometimes sinks greatly below it ; and which is indebted, in no small degree, to the adventitious aid of a name, resplendent in another walk of literature, for that countenance and support, which its own intrinsic merits, singly, could never claim.

I am aware that these brief observations on the poetry of Wilson, are not calculated to give pleasure to those of his friends, who have been in the habit of regarding him as one possessing no small claim to the inspiration of the Muses. But let such remember the determination of a profound critic, that

"no question can be more innocently discussed than a dead poet's pretensions to renown; and little regard is due to that bigotry which sets candor higher than truth."*

When Wilson commenced the publication of his *History of the Birds of the United States*, he was quite a novice in the study of the *Science of Ornithology*. This arose from two causes: his poverty, which prevented him from owning the works of those authors, who had particularly attended to the classification and nomenclature of birds; and his contempt of the labors of closet naturalists, whose dry descriptions convey anything but pleasure to that mind, which has been disciplined in the school of Nature. But the difficulties under which he labored soon convinced him of the necessity of those helps, which only books can supply; and his repugnance to systems, as repulsive as they are at the first view, gradually gave place to more enlarged notions, on the course to be pursued by him, who would not only attain to knowledge, by the readiest means, but who would impart that knowledge, in the most effective manner, to others.

As far as I can learn, he had access but to two systems of Ornithology—that of Linnæus, as translated by Dr. Turton, and the "General Synopsis" of Dr. Latham.† The arrangement of the latter he adopted in his "General Index" of Land Birds, appended to the sixth volume; and he intended to pursue the same system for the Water Birds, at the conclusion of his work.

The nature of his plan prevented him from proceeding in regular order, according to the system adopted, it being his intention to publish as fast as the materials accumulated; and he being in some measure compelled, by motives of economy, to apportion his figures to the space they would occupy in the plates, he thereby brings to our view, birds not only of different genera, but of different habits, associated in a manner not wholly unnatural, but abhorrent from the views of those systematists, who account every deviation from method an inexcusable fault.

With the art of perspective, it would appear, he was imperfectly acquainted; hence there are errors in his drawings, which the rigid critic cannot overlook. These errors occur most frequently in the feet and the tails of his birds, the latter of which, with the view of being characteristically displayed, are frequent distorted in a manner, which no expediency can justify. One can hardly forbear smiling at the want of correspondence between the figure of the Sharp-shinned Hawk, and the fence upon which it is mounted, the former, instead of appearing of the size of nature, for which the author intended it, absolutely assuming the bulk of an elephant.

But notwithstanding these defects, there is a spirit in some of his drawings which is admirable. Having been taught drawing from natural models, he of course became familiar with natural attitudes: hence his superiority, in this

* Johnson's Preface to Shakspeare.

† The library of Wilson occupied but a small space. On casting my eyes, after his decease, over the ten or a dozen volumes of which it was composed, I was grieved to find that he had been the owner of only *one* work on Ornithology, and that was Bewick's *British Birds*. For the use of the first volume of Turton's Linnæus, he was indebted to the friendship of Mr. Thomas Say; the Philadelphia Library supplied him with Latham.

respect, to all authors extant. Among his figures most worthy of notice, I would particularize the Shore Lark, Brown Creeper, House and Winter Wrens, Mocking-Bird, Cardinal Grosbeak, Cow Buntings, Mottled Owl, Meadow Lark, Barn Swallows, Snipe and Partridge, Rail and Woodcock, and the Ruffed Grouse.

The introduction of appropriate scenery, into a work of this kind, can have no good effect, unless it be made to harmonize, both as to design and execution, with the leading subjects; hence Wilson's landscapes, in the eye of taste, must always be viewed as a blemish, as he was not skilful in this branch of the art of delineation; and, even if he had been dexterous, he was not authorized to increase the expenditures of a work, which, long before its termination, its publisher discovered to be inconveniently burdensome.

The principal objections which I have heard urged against the Ornithology, relate to the coloring; but as the difficulties to which its author was subjected, on this score, have been already detailed, I will merely observe, that he found them too great to be surmounted. Hence a generous critic will not impute to him as a fault, what, in truth, ought to be viewed in the light of a misfortune.

In his specific definitions he is loose and unsystematic. He does not appear to have been convinced of the necessity of precision on this head; his essential and natural characters are not discriminated; and, in some instances, he confounds generic and specific characters, which the laws of methodical science do not authorize.

There is a peculiarity in his orthography, which it is proper that I should take notice of, for the purpose of explaining his motive for an anomaly, at once inelegant and injudicious. I have his own authority for stating, that he adopted this mode of spelling, at the particular instance of the late Joel Barlow, who vainly hoped to give currency, in his heavy Epic, to an innovation, which greater names than his own had been unable to effect.

"Some ingenious men," says Johnson, "have endeavored to deserve well of their country by writing *honor* and *labor* for *honour* and *labour*, *red* for *read* in the preter-tense, *sais* for *says*, *repete* for *repeat*, *explane* for *explain*, or *declame* for *declaim*. Of these it may be said, that as they have done no good, they have done little harm; both because they have innovated little, and because few have followed them."

The recommendation of the learned lexicographer, above cited, ought to be laid to heart by all those whose "vanity seeks praise by petty reformation." "I hope I may be allowed," says he, "to recommend to those, whose thoughts have been perhaps employed too anxiously on verbal singularities, not to disturb upon narrow views, or for minute propriety, the orthography of their fathers. There is in constancy and ability a general and lasting advantage, which will always overbalance the slow improvements of gradual correction."

As it must be obvious that, without books, it would be impossible to avoid error in synonyms and nomenclature, so we find that our author, in these respects, has rendered himself obnoxious to reproach.

That he was not ambitious of the honor of forming new genera, appears from the circumstance, that, although he found the system of Latham needed reformation, yet he ventured to propose but one genus, the *Curvirostra*, the

characters of which are so obvious, that one is astonished that so learned an ornithologist as Latham, should have contented himself with arranging the species appertaining to it with others, the conformation of whose bills is so dissimilar. It may be necessary to state that the Crossbills had been erected into a separate genus, under the denomination of *Crucirostra*, by an author whose works Wilson had no knowledge of; and I have reason to believe that even the generic appellation of *Curvirostra* had been anticipated, by a writer on the ornithology of the northern parts of Europe. Brisson limited his genus *Loxia* to the Crossbills, and this judicious restriction appears to be now sanctioned by all naturalists of authority.

There is a species of learning, which is greatly affected by puny minds, and for which our author entertained the most hearty contempt: this is the names by which certain nations of Indians designated natural objects. Hence we nowhere find his work disfigured by those "uncouth and unmanageable words," which some writers have recorded with a solemnity, which should seem to prove a conviction of their importance; but which, in almost every instance, are a reproach to their vanity and their ignorance. Can anything be more preposterous than for one to give a catalogue of names in a language, the grammatical construction of which has never been ascertained, and with the idiom of which one is totally unacquainted? Among literate nations it is a rule, which has received the sanction of prescription, that when one would write upon a tongue, it is indispensable that one should qualify one's self for the task, by a careful investigation of its principles. But when the language of barbarians becomes the subject of attention, the rule is reversed, and, provided a copious list of names be given, it is not required of the collector, that he should have explored the sources whence they are derived: his learning is estimated by the measure of his labor, and our applause is taxed in proportion to his verbosity.

The style of Wilson appears to be well adapted to the subjects upon which he wrote. It is seldom feeble, it is sometimes vigorous, and it is generally neat. He appears to have "understood himself, and his readers always understand him." That he was capable of graceful writing, he has given us, in the preface to his first volume, which we here insert, a remarkable instance; which is one of the happiest, and most appropriate, compositions that our literature can boast of.

"The whole use of a preface seems to be, either to elucidate the nature and origin of the work, or to invoke the clemency of the reader. Such observations as have been thought necessary for the former, will be found in the introduction; extremely solicitous to obtain the latter, I beg leave to relate the following anecdote.

"In one of my late visits to a friend's in the country, I found their youngest son, a fine boy of eight or nine years of age, who usually resides in town for his education, just returning from a ramble through the neighboring woods and fields, where he had collected a large and very handsome bunch of wild flowers, of a great many different colors; and presenting them to his mother, said, with much animation in his countenance, 'Look, my dear 'ma, what beautiful flowers I have found growing on our place! Why all the woods

are full of them ! red, orange, blue, and most every color. O, I can gather you a whole parcel of them, much handsomer than these, all growing in our own woods ! Shall I, 'ma ? Shall I go and bring you more ?" The good woman received the bunch of flowers with a smile of affectionate complacency ; and after admiring for some time the beautiful simplicity of nature, gave her willing consent ; and the little fellow went off, on the wings of ecstasy, to execute his delightful commission.

"The similitude of this little boy's enthusiasm to my own, struck me ; and the reader will need no explanations of mine to make the application. Should my country receive with the same gracious indulgence the specimens which I here humbly present her ; should she express a desire for me *to go and bring her more*, the highest wishes of my ambition will be gratified ; for, in the language of my little friend, *our whole woods are full of them !* and I can collect hundreds more, *much handsomer than these.*"

In a work abounding with so many excellencies, it would not be difficult to point out passages of merit, any one of which would give the author a just claim to the title of a describer of no ordinary powers.

We select the following description, from the history of the Wood Thrush : "At whatever time the wood thrush may arrive, he soon announces his presence in the woods. With the dawn of the succeeding morning, mounting to the top of some tall tree, that rises from a low thick-shaded part of the woods, he pipes his few, but clear and musical, notes in a kind of ecstasy ; the prelude or symphony to which strongly resembles the double-tongueing of a German flute, and sometimes the tinkling of a small bell. The whole song consists of five or six parts, the last note of each of which is in such a tone, as to leave the conclusion evidently suspended ; the finale is finely managed, and with such charming effect, as to soothe and tranquillize the mind, and to seem sweeter and mellower at each successive repetition. Rival songsters, of the same species, challenge each other from different parts of the wood, seeming to vie for softer tones, and more exquisite responses. During the burning heat of the day they are comparatively mute ; but in the evening the same melody is renewed, and continued long after sunset. Even in dark, wet and gloomy weather, when scarce a single chirp is heard from any other bird, the clear notes of the wood thrush thrill through the dropping woods, from morning to night ; and it may truly be said that the sadder the day the sweeter is his song."

Perhaps my admiration of this passage may be dependent, in some measure, upon the association of ideas, having been accustomed to frequent the favorite haunts of this exquisite musician, which are "low thick-shaded hollows, through which a small brook or rill meanders, overhung with alder bushes that are mantled with vines." But I can truly declare that I could never read it in an audible voice, the intenseness of my feelings always overpowering me.

He thus delightfully introduces his history of the Barn Swallow : "There are but few persons in the United States unacquainted with this gay, innocent, and active little bird. Indeed the whole tribe are so distinguished from the rest of small birds by their sweeping rapidity of flight, their peculiar aerial evolutions of wing over our fields and rivers, and through our very streets,

from morning to night, that the light of heaven itself, the sky, the trees, or any other common objects of nature, are not better known than the swallows. We welcome their first appearance with delight, as the faithful harbingers and companions of flowery spring, and ruddy summer; and when, after a long, frost-bound and boisterous winter, we hear it announced that the '*Swallows are come!*' what a train of charming ideas are associated with the simple tidings!"

The following remarks on the current doctrine of the hybernation of Swallows are worthy of note. My object in introducing them into this place is twofold: to exemplify our author's talent for copious and equable composition; and to afford myself an opportunity of adding my feeble testimony to his, on a subject which one should suppose would have been long ago definitively ascertained.

"The wonderful activity displayed by these birds, forms a striking contrast to the slow habits of most other animals. It may be fairly questioned whether among the whole feathered tribes, which Heaven has formed to adorn this part of creation, there be any that, in the same space of time, pass over an equal extent of surface with the Swallow. Let a person take his stand on a fine summer evening, by a new-mown field, meadow or river shore, for a short time, and among the numerous individuals of this tribe that flit before him, fix his eye on a particular one, and follow, for a while, all its circuitous labyrinths—its extensive sweeps—its sudden, rapidly reiterated, zigzag excursions, and then attempt, by the powers of mathematics, to calculate the length of the various lines it describes; alas! even his omnipotent fluxions would avail him little here, and he would soon abandon the task in despair. Yet, that some conception may be formed of this extent, let us suppose that this little bird flies, in his usual way, at the rate of one mile in a minute, which, from the many experiments that I have made, I believe to be within the truth; and that he is so engaged for ten hours every day; and further, that this active life is extended to ten years (many of our small birds being known to live much longer, even in a state of domestication), the amount of all these, allowing three hundred and sixty-five days to a year, would give us two millions one hundred and ninety thousand miles: upwards of eighty-seven times the circumference of the globe! Yet this *winged* seraph, if I may so speak, who, in a few days, and at will, can pass from the borders of the arctic regions to the torrid zone, is forced, when winter approaches, to descend to the bottoms of lakes, rivers, and mill-ponds, to bury itself in the mud with eels and snapping turtles; or to creep ingloriously into a cavern, a rat-hole, or a hollow tree, there to doze with snakes, toads, and other reptiles, until the return of spring! Is not this true, ye *wise* men of Europe and America, who have published so many *credible* narratives upon this subject?"

"The geese, the ducks, the catbird, and even the wren, which creeps about our outhouses in summer like a mouse, are all acknowledged to be migratory, and to pass into southern regions at the approach of winter;—the swallow alone, on whom Heaven has conferred superior powers of wing, must sink into torpidity at the bottom of our rivers, or doze all winter in the caverns of the earth. I am myself something of a traveller, and foreign countries afford many novel sights: should I assert, that in some of my peregrinations I had

met with a nation of Indians, all of whom, old and young, at the commencement of cold weather, descend to the bottom of their lakes and rivers, and there remain until the breaking up of frost; nay, should I affirm, that thousands of people in the neighborhood of this city, regularly undergo the same semi-annual submersion—that I myself had fished up a whole family of these from the bottom of the Schuylkill, where they had lain *torpid* all winter, carried them home, and brought them all comfortably to themselves again;—should I even publish this in the learned pages of the Transactions of our Philosophical Society,* who would believe me? Is then the organization of a swallow less delicate than that of a man? Can a bird, whose vital functions are destroyed by a short privation of pure air, and its usual food, sustain, for six months, a situation where the most robust man would perish in a few hours, or minutes?† Away with such absurdities! they are unworthy of a serious refutation. I should be pleased to meet with a man who has been personally more conversant with birds than myself, who has followed them in their wide and devious routes—studied their various manners—mingled with them, and marked their peculiarities more than I have done; yet the *miracle* of a resuscitated swallow, in the depth of winter, from the bottom of a mill-pond, is, I confess, a phenomenon in ornithology that I have never met with.”

The subject of the supposed torpidity of swallows has employed many writers, but unfortunately too few of those, whose practical knowledge enabled them to speak with that certainty, which should always give authority to writings on natural history. Reasoning *à priori* ought to have taught mankind a

* Here there is a palpable allusion to a paper on the hybernation of swallows, which was published in the sixth volume of the Transactions of the American Philosophical Society. This paper was written by one Frederick Antes, and was communicated to the Society by the late Professor Barton. It is probable that Wilson had also read the “letter on the retreat of house-swallows in winter, from the Honorable Samuel Dexter, Esq., to the Honorable James Bowdoin, Esq. ;” and that “from the Reverend Mr. Packard to the Honorable Samuel Dexter, Esq.,” both of them published in the Memoirs of the American Academy of Arts and Sciences, of Boston, vols. 1 and 2.

Such communications are not calculated to do honor to any learned institution; and they ought to be rejected with scorn and reprehension.

† Carlisle, in his lecture on muscular motion, observes, that, “animals of the class *Mammalia*, which hybernate and become torpid in the winter, have at all times a power of subsisting under a confined respiration, which would destroy other animals not having this peculiar habit. In all the hybernating *Mammalia* there is a peculiar structure of the heart and its principal veins.” Philosophical Transactions for 1805, p. 17.

“If all birds, except swallows,” says Reeve, “are able to survive the winter, and they alone are so overcome by the cold as to be rendered torpid, the difference must be found in their anatomical structure, and in their habits of life.

“Now, in the first place, it is certain that they have, in common with other birds, the three great functions of respiration, circulation, and assimilation: the similarity of their organs, and every circumstance in their mode of living, prove that they are subject to the same laws: they have also a very high temperature; and are peculiarly organized for rapid and long flight. The size of their lungs, the lightness of their bones, and the buoyancy of their feathers, render it absolutely impossible to sink them in water without a considerable weight; and they die instantly for want of air.” Reeve on Torpidity, p. 43.

more rational opinion, than that which the advocates of hybernation have unthinkingly promulgated. And it is not surprising that as experiments are so easy to be instituted, they should have been so seldom resorted to, in order to determine a problem which many may suppose to be intricate, but which, in effect, is one of the simplest, or most easy to be ascertained, of any in the whole animal kingdom. It is a fact, that all the experiments which have been made, on the subject of the hybernation of birds, have failed to give countenance, in the most remote degree, to this irrational doctrine.

From my personal experience, and from my earliest youth, I have been conversant with the habits of birds, I feel myself justified in asserting, that, in the whole class *Aves*, there has never been an authenticated instance known of a single individual capable of entering into that peculiar state denominated torpidity. Be it observed, that the narratives of credulous travellers, and superficial observers, and newspaper tales, on this subject, are of no authority, and must be utterly rejected. And yet these are the only sources whence naturalists have drawn their opinions on the question of torpidity. It is to be regretted that the authority of Linnæus himself should have given credit and currency to this opinion, and the more so since his example of sanctioning vulgar narratives by his acquiescence, without examination, has been followed by the majority of writers on ornithology, particularly those of Sweden, in which country, if we may place reliance on the transactions of the Academy of Upsal, the submersion of swallows is received as an acknowledged fact.

Linnæus nowhere tells us that he had ever seen a torpid swallow; but what shall we say of the English translator of Kalm's Travels, the learned John Reinhold Forster, who positively asserts that he himself had been an eye witness to the fact of swallows being fished up out of the lake of Lybshau, in Prussia, in the winter, and being restored to animation! a circumstance as impossible, if we are allowed to consider anatomical structure as having any influence on animal existence, as that a human being could be resuscitated after such a submersion.*

* I am unwilling to object falsehood to this accomplished traveller, and therefore must conclude that, in trusting to his memory, after a considerable lapse of time, he must have given that which he had received of another, as the result of his own experience. Mental hallucinations of this kind are not of rare occurrence.

That persons of the strictest veracity are frequently deceived by appearances, there can be no doubt; and therefore it becomes a source of regret when such individuals, in recording their remarks upon the phenomena of nature, omit those considerations, which, if observed, could hardly fail to guard them from error. Had our illustrious countryman, Franklin, when he *thought* he had succeeded in resuscitating a fly, after it had been, for several months, or perhaps years, embalmed in a bottle of Madeira wine, but exercised that common sense, of which he possessed so large a share, and bethought him to *repeat* the experiment, he would have soon discovered, that when the vital juices of an animal become decomposed by an acid, and their place supplied by a spirituous fluid, something more than the influence of solar heat will be requisite to reanimate a fabric, which has, in effect, lost that upon which existence mainly depends.

The writer of this sketch has made several experiments upon flies, with the view of ascertaining the possibility of their being resuscitated after having been drowned in Madeira wine; but in every instance his experiments had a different result from Dr. Franklin's.

Dr. Reeve, in treating of the migration of birds, makes the following judicious observations: "It is singular that this subject should still admit of doubt, when it seems so easy to be decided; yet every month we see queries and answers about the migration of swallows; and every year our curiosity is tempted to be amused with marvellous histories of a party of these birds diving under water in some remote quarter of America. No species of birds, except the swallow, the cuckoo, and the woodcock, have been supposed to remain torpid during the winter months. And what is the evidence in favor of so strange and monstrous a supposition? Nothing but the most vague testimonies, and histories repugnant to reason and experience.

"Other birds are admitted to migrate, and why should swallows be exempt from the general law of their nature? When food fails in one quarter of the world, their instinct prompts them to seek it in another. We know, in fact, that such is their natural habit: we have the most unexceptionable proofs that swallows do migrate; they have been seen at sea on the rigging of ships; and Adanson, the celebrated naturalist, is said to have caught four European swallows fifty leagues from land, between the coast of Goree and Senegal, in the month of October.

"Spallanzani saw swallows in October on the island of Lipari, and he was told that when a warm southerly breeze blows in winter they are frequently seen skimming along the streets in the city. He concludes that they do not pass into Africa at the approach of winter, but remain in the island, and issue from their retreat on warm days in quest of food."*

The late Professor Barton of Philadelphia, in a letter to the editor of the Philosophical Magazine, thus comments upon the first paragraph of the above remarks of Dr. Reeve: "It appears somewhat surprising to me, that an author

He submerged them in the wine for different periods, viz. six months, eighteen hours, six hours, one hour; and in the last instance they showed signs of life until ten minutes before they were removed for the benefit of the air and sun. Of three flies used in the last experiment, only one was reanimated, but after a few convulsive struggles it expired.

Three flies were afterwards drowned in pure water; and after having been kept in that state for seventeen hours, they were exposed to the sun for several hours, but they gave no signs of life.

Upon a reperusal of Franklin's "Observations upon the Prevailing Doctrines of Life and Death," in which the story of the flies is inserted, it appears obvious to me, that the flies which "fell into the first glass that was filled," were either accidentally thrown into it, or had been in it unperceived, and on this supposition a recovery from suspended animation would have nothing in it which might be thought marvellous.

* An Essay on the Torpidity of Animals, by Henry Reeve, M. D., p. 40.

The author of this narrative, in the middle of December, 1820, was at Nice, on the Mediterranean; and had the gratification of beholding the common European Swallow (*Hirundo rustica*) flying through the streets in considerable numbers. M. Risso, a well-known naturalist, and a resident of the place, informed him that swallows remained there all winter.

On the 20th February, 1818, being at the mouth of the river St. John, in East Florida, I observed several swallows of the species *viridis* of Wilson; and, on the 26th, a flight of them, consisting of several hundreds, coming from the sea. They are the first which reach us in the spring from the south. They commonly arrive in Pennsylvania in the early part of March.

who had so long had the subject of the torpidity of animals under his consideration, should have hazarded the assertion contained in the preceding paragraph. Dr. Reeve has certainly read of other birds besides the swallow, the cuckoo, and the woodcock, which are said to have been found in a torpid state. And ought he not to have mentioned these birds?

"In my 'Fragments of the Natural History of Pennsylvania,' I have mentioned the common humming-bird (*Trochilus colubris*) as one of those American birds which do occasionally become torpid.

"In regard to the swallows, I shall say but little at present. I have, at this time, in the press, a memoir on the migration and torpidity of these birds. *I am confident that I shall be able to convince every candid philosopher, that great numbers of swallows, of different species, do occasionally pass into a state of torpidity*, more or less profound, not merely 'in some remote quarter of America,' but in the vicinity of our capital cities, where there are *some men* of genuine observation and inquiry, and who are as little propense to believe the marvellous in natural history, as any philosophers elsewhere.

"I do not suppose that all the swallows of North America become torpid. It is my present opinion, and it was my opinion when I published the 'Fragments' in 1799, that the swallows, in general, are migratory birds. But subsequent and *very extensive* inquiries have convinced me, that the instances of torpid swallows are much more frequent than I formerly supposed they were; and that there are two species of the genus *Hirundo*, which are peculiarly disposed to pass the brumal season in the cavities of rocks, in the hollows of trees, and in other similar situations, where they have often been found in a *soporose* state. These species are the *Hirundo riparia*, or sand swallow; and the *H. pelagica*, which we call chimney swallow. *There is no fact in ornithology better established than THE FACT of the occasional torpidity of these two species of Hirundo!*"*

It is not strange that the "*very extensive*" inquiries of our learned professor should have had a result so different from those of Wilson, an ornithologist infinitely better qualified than himself to investigate a question of this kind, by his zeal, his capacity, and his experience. Who those men of *genuine observation and inquiry* were, who resided in the vicinity of our capital cities, he did not condescend to inform us; if he had done so, we should be enabled to determine, whether or not they were capacitated to give an opinion on a subject, which requires qualifications of a peculiar kind.

At the time in which the professor wrote the above-cited letter, I know of but *two* naturalists in the United States whose opinions ought to have any weight on the question before us, and these were William Bartram and Alexander Wilson, both of whom have recorded their testimony, in the most positive manner, against torpidity.

* Tilloch's Philosophical Magazine, vol. 35, p. 241.

"Naturalists," says Dr. Barton in another place, "have not always been philosophers. The *slight and superficial* manner in which they have examined many of the subjects of their science; the credulity which has accompanied them in their researches after truth; and the *precipitancy with which they have decided upon many questions of importance*; are proofs of this assertion." Memoir concerning the fascinating faculty of serpents.

The "Memoir on the Migration and Torpidity of Swallows," wherein Dr. Barton was confident he should be able to convince every candid philosopher of the truth of his hypothesis concerning these birds, never issued from the press, although so publicly announced. And who will venture to say that he did not, by this suppression, manifest his discretion? When Wilson's volume, wherein the swallows are given, appeared, it is probable that the author of the "Fragments" was made sensible that he had been writing upon subjects of which he had little personal knowledge; and therefore he wisely relinquished the task of instructing philosophers, in these matters, to those more capable than himself of such discussions.

Naturalists have not been sufficiently precise when they have had occasion to speak of torpidity. They have employed the term to express that torpor or numbness, which is induced by a sudden change from heat to cold, such as is annually experienced in our climate in the month of March, and which frequently affects swallows to so great a degree as to render them incapable of flight. From the number of instances on record of these birds having been found in this state, the presumption has been that they were capable of passing into a state of torpidity, similar to that of the Marmots, and other hybernating animals.

Smellie, though an advocate for migration, yet admits that swallows may become torpid. "That swallows," says he, "in the winter months, have sometimes, though very rarely, been found in a torpid state, is unquestionably true. Mr. Collinson gives the evidence of three gentlemen who were eye-witnesses to a number of sand-martins being drawn out of a cliff on the Rhine, in the month of March, 1762."* One should suppose that Smellie was too good a logician to infer that, because swallows had been found in the state described, they had remained in that state all winter. A little more knowledge of the subject would have taught the three gentlemen observers, that the poor swallows had been driven to their retreat by cold weather, which had surprised them in their vernal migration; and that this state of numbness, falsely called *torpidity*, if continued for a few days, would for ever have destroyed them.

It is now time to resume the subject of Wilson's Ornithology, as the reader will, probably, consider that we have transgressed the limits which our digression required.

Dr. Drake, in his observations upon the descriptive abilities of the poet Bloomfield, thus expresses himself: "Milton and Thomson have both introduced the flight of the sky-lark, the first with his accustomed spirit and sublimity; but probably no poet has surpassed, either in fancy or expression, the following prose narrative of Dr. Goldsmith. 'Nothing,' observes he, 'can be more pleasing than to see the Lark warbling upon the wing; raising its note as it soars, until it seems lost in the immense heights above us; the note continuing, the bird itself unseen; to see it then descending with a swell as it comes from the clouds, yet sinking by degrees as it approaches its nest; the spot where all its affections are centred; the spot that has prompted all

* Philosophy of Natural History, chap. 20.

this joy.' This description of the descent of the bird, and the pleasures of its little nest, is conceived in a strain of the most exquisite delicacy and feeling."*

I am not disposed to dispute the beauty of the imagery of the above, or the delicacy of its expression; but I should wish the reader to compare it with Wilson's description of the Mocking-bird, unquestionably the most accomplished songster of the feathered race.

"The plumage of the Mocking-bird, though none of the homeliest, has nothing gaudy or brilliant in it; and, had he nothing else to recommend him, would scarcely entitle him to notice; but his figure is well proportioned, and even handsome. The ease, elegance and rapidity of his movements, the animation of his eye,† and the intelligence he displays in listening, and laying up lessons from almost every species of the feathered creation within his hearing, are really surprising, and mark the peculiarity of his genius. To these qualities we may add that of a voice full, strong, and musical, and capable of almost every modulation, from the clear mellow tones of the Wood Thrush, to the savage scream of the Bald Eagle. In measure and accent he faithfully follows his originals. In force and sweetness of expression he greatly improves upon them. In his native groves, mounted upon the top of a tall bush or half-grown tree, in the dawn of dewy morning, while the woods are already vocal with a multitude of warblers, his admirable song rises pre-eminent over every competitor. The ear can listen to *his* music alone, to which that of all the others seems a mere accompaniment. Neither is this strain altogether imitative. His own native notes, which are easily distinguishable by such as are well acquainted with those of our various song birds, are bold and full, and varied seemingly beyond all limits. They consist of short expressions of two, three, or at the most five or six syllables; generally interspersed with imitations, and all of them uttered with great emphasis and rapidity; and continued, with undiminished ardor, for half an hour, or an hour at a time. His expanded wings and tail, glistening with white, and the buoyant gayety of his action, arresting the eye, as his song most irresistibly does the ear. He sweeps round with enthusiastic ecstasy—he mounts and descends as his song swells or dies away; and, as my friend Mr. Bartram has beautifully expressed it, 'He bounds aloft with the celerity of an arrow, as if to recover his very soul, which expired in the last elevated strain.' While thus exerting himself, a bystander, destitute of sight, would suppose that the whole feathered tribes had assembled together, on a trial of skill, each striving to produce his utmost effect, so perfect are his imitations. He many times deceives the sportsman, and sends him in search of birds that perhaps are not within miles of him; but whose notes he exactly imitates. Even birds themselves are frequently imposed on by this admirable mimic, and are decoyed by the fancied calls of their mates; or dive, with precipitation, into the depths of thickets, at the scream of what they suppose to be the Sparrow Hawk.

"The Mocking-bird loses little of the power and energy of his song by con-

* Drake's Literary Hours, No. 39, edition of 1820.

† The reader is referred to our author's figure of this bird, which is one of the most spirited drawings that the records of natural history can produce.

finement. In his domesticated state, when he commences his career of song, it is impossible to stand by uninterested. He whistles for the dog: Cæsar starts up, wags his tail, and runs to meet his master. He squeaks out like a hurt chicken, and the hen hurries about with hanging wings, and bristled feathers, clucking to protect her injured brood. He runs over the quiverings of the Canary, and the clear whistlings of the Virginia Nightingale or Red-bird, with such superior execution and effect, that the mortified songsters feel their own inferiority, and become altogether silent; while he seems to triumph in their defeat by redoubling his exertions.

"This excessive fondness for variety, however, in the opinion of some, injures his song. His elevated imitations of the Brown Thrush are frequently interrupted by the crowing of cocks; and the warblings of the Blue-bird, which he exquisitely manages, are mingled with the screaming of Swallows, or the cackling of hens; amidst the simple melody of the Robin we are suddenly surprised by the shrill reiterations of the Whip-poor-will, while the notes of the Killdeer, Blue Jay, Martin, Baltimore, and twenty others, succeed, with such imposing reality, that we look round for the originals, and discover, with astonishment, that the sole performer in this singular *concert* is the admirable bird now before us. During this exhibition of his powers, he spreads his wings, expands his tail, and throws himself around the cage in all the ecstasy of enthusiasm, seeming not only to sing, but to dance, keeping time to the measure of his own music. Both in his native and domesticated state, during the solemn stillness of night, as soon as the moon rises in silent majesty, he begins his delightful solo; and serenades us with a full display of his vocal powers, making the whole neighborhood ring with his inimitable medley."

I will give but one example more of our author's descriptive powers, and that will be found in his history of the Bald Eagle. As a specimen of nervous writing, it is excellent; in its imagery, it is unsurpassed; and in the accuracy of its detail, it transcends all praise.

"This distinguished bird, as he is the most beautiful of his tribe in this part of the world, and the adopted *emblem* of our country, is entitled to particular notice. He has been long known to naturalists, being common to both continents, and occasionally met with from a very high northern latitude, to the borders of the torrid zone, but chiefly in the vicinity of the sea, and along the shores and cliffs of our lakes and large rivers. Formed by nature for braving the severest cold; feeding equally on the produce of the sea, and of the land; possessing powers of flight capable of outstripping even the tempests themselves; unawed by anything but man; and from the ethereal heights to which he soars, looking abroad, at one glance, on an immeasurable expanse of forests, fields, lakes, and ocean, deep below him; he appears indifferent to the little localities of change of seasons; as in a few minutes he can pass from summer to winter, from the lower to the higher regions of the atmosphere, the abode of eternal cold; and thence descend at will to the torrid or the arctic regions of the earth. He is therefore found at all seasons in the countries which he inhabits; but prefers such places as have been mentioned above, from the great partiality he has for fish.

"In procuring these, he displays, in a very singular manner, the genius and

energy of his character, which is fierce, contemplative, daring and tyrannical: attributes not exerted but on particular occasions; but, when put forth, overpowering all opposition. Elevated upon a high dead limb of some gigantic tree, that commands a wide view of the neighboring shore and ocean, he seems calmly to contemplate the motions of the various feathered tribes that pursue their busy avocations below: the snow-white Gulls slowly winnowing the air; the busy *Tringæ* coursing along the sands; trains of Ducks streaming over the surface; silent and watchful Cranes, intent and wading; clamorous Crows, and all the winged multitudes that subsist by the bounty of this vast liquid magazine of nature. High over all these hovers one, whose action instantly arrests all his attention. By his wide curvature of wing, and sudden suspension in air, he knows him to be the *Fish-hawk* settling over some devoted victim of the deep. His eye kindles at the sight, and balancing himself, with half-opened wings, on the branch, he watches the result. Down, rapid as an arrow from heaven, descends the distant object of his attention, the roar of its wings reaching the ear as it disappears in the deep, making the surges foam around. At this moment the looks of the Eagle are all ardor; and levelling his neck for flight, he sees the Fish-hawk emerge, struggling with his prey, and mounting into the air with screams of exultation. These are the signal for our hero, who, launching into the air, instantly gives chase, soon gains on the Fish-hawk, each exerts his utmost to mount above the other, displaying in these rencontres the most elegant and sublime aerial evolutions. The unencumbered Eagle rapidly advances, and is just on the point of reaching his opponent, when with a sudden scream, probably of despair and honest execration, the latter drops his fish; the Eagle poising himself for a moment, as if to take a more certain aim, descends like a whirlwind, snatches it in his grasp ere it reaches the water, and bears his ill-gotten booty silently away to the woods."

Perhaps there is no similar work extant which can so justly lay claim to the merit of originality as Wilson's Ornithology. In books on natural history, in general, we rarely meet with much that is new; and it is not unusual to behold labored performances, which are undistinguished by any fact, which might prove that their authors are entitled to any other praise than that of diligent compilers. But in the work before us, we are presented with a fund of information of so uncommon a kind, so various, and so interesting, that we are at no loss to perceive that the whole is the result of personal application, directed to the only legitimate source of knowledge—Nature, not as she appears in the cabinet of the collector, but as she reveals herself in all the grace and loveliness of animated existence.

Independent of those pleasing descriptions, which will always insure the work a favorable reception, it has higher claims to our regard, by the philosophical view which it takes of those birds which mankind had, with one consent, proscribed as noxious, but which now we are induced to consider as auxiliaries in agriculture, whose labors could not be dispensed with without detriment. A vagrant chicken, now and then, may well be spared to the hawk or owl who clears our fields of swarms of destructive mice; the woodpecker, whose taste induces him to appropriate to himself the first ripe apple or cherry, has well earned the delicacy, by the myriads of pestilential worms of which he

has rid our orchards, and whose ravages, if not counteracted, would soon deprive us of all fruit; if the crow and the black-bird be not too greedy, we may surely spare them a part of what they have preserved to us, since it is questionable, if their fondness for grubs or cut-worms did not induce them to destroy these enemies of the maize, whether or not a single stalk of this inestimable corn would be allowed to greet the view of the American farmer.

The beauties of this work are so transcendent, that its faults, which are, in truth, mere peccadillos, are hardly perceptible; they may be corrected by one of ordinary application, who needs not invoke to his aid either much learning or much intelligence. A book superior in its typographical execution, and graphical illustrations, it would be no difficult matter to produce, since the ingenuity of man has advanced the fine arts to a state of perfection, sufficient to gratify the most fastidious choice; but who could rival it in those essentials which distinguish it from all other similar undertakings, and which constitute it one of the most valuable offerings to natural science which taste and genius has ever produced?

CATALOGUE

OF

NORTH AMERICAN BIRDS.

By PROF. SPENCER F. BAIRD,
Of the Smithsonian Institution.

THE following "Catalogue of North American Birds" has been reprinted from the octavo edition issued by the Smithsonian Institution, in October, 1858. It was originally published in quarto, forming a portion of the report on North American Birds, in vol. iv. of the Reports of the Pacific Railroad Survey. Its republication in 8vo. had for its object to facilitate the labelling of the specimens of birds and eggs in the Museum of the Institution; we reprint it, as it serves most admirably the purposes of a check list of the species of American Birds.

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|--|---|
| 1. <i>Cathartes Aura</i> . Illig.
TURKEY BUZZARD. | 18. <i>Buteo Swainsoni</i> . Bonap.
SWAINSON'S HAWK. |
| 2. <i>Cathartes Californianus</i> . Cuv.
CALIFORNIA VULTURE. | 19. <i>Buteo Bairdii</i> . Hoy.
BAIRD'S HAWK. |
| 3. <i>Cathartes Atratus</i> . Lesson.
BLACK VULTURE. | 20. <i>Buteo Calurus</i> . Cassin.
BLACK RED-TAIL. |
| 4. <i>Cathartes Burrobianus</i> . Cassin.
MEXICAN VULTURE. | 21. <i>Buteo Insignatus</i> . Cassin.
BROWN HAWK. |
| 5. <i>Falco Anatum</i> . Bonap.
DUCK HAWK. | 22. <i>Buteo Harlani</i> . Bonap.
HARLAN'S HAWK. |
| 6. <i>Falco Nigriceps</i> . Cassin.
BLACK CAPPED HAWK. | 23. <i>Buteo Borealis</i> . Vieill.
RED-TAILED HAWK. |
| 7. <i>Hypotriorchis Columbarius</i> . Gray.
PIGEON HAWK. | 24. <i>Buteo Montanus</i> . Nuttall.
WESTERN RED-TAIL. |
| 8. <i>Hypotriorchis Aurantius</i> . Kaup.
ORANGE-BREASTED HAWK. | 25. <i>Buteo Lineatus</i> . Jardine.
RED-SHOULDERED HAWK. |
| 9. <i>Hypotriorchis Femoralis</i> . Gray.
APLOMADO. | 26. <i>Buteo Elegans</i> . Cassin.
RED-BELLIED HAWK. |
| 10. <i>Falco Polyagrus</i> . Cassin.
PRAIRIE FALCON. | 27. <i>Buteo Pennsylvanicus</i> . Bonap.
BROAD-WINGED HAWK. |
| 11. <i>Falco Candicans</i> . Gmelin.
JER FALCON. | 28. <i>Buteo Oxypterus</i> . Cassin.
SHARP-WINGED HAWK. |
| 12. <i>Falco Islandicus</i> . Sabine.
JER FALCON. | 29. <i>Buteo Cooperi</i> . Cassin.
CALIFORNIA HAWK. |
| 13. <i>Tinnunculus Sparverius</i> . Vieill.
SPARROW HAWK. | 30. <i>Archibuteo Lagopus</i> . Gray.
ROUGH-LEGGED HAWK. |
| 14. <i>Astur Atricapillus</i> . Bonap.
GOSHAWK. | 31. <i>Archibuteo Sancti-Johannis</i> . Gray.
BLACK HAWK. |
| 15. <i>Accipiter Cooperii</i> . Bonap.
COOPER'S HAWK. | 32. <i>Archibuteo Ferrugineus</i> . Gray.
SQUIRREL HAWK. |
| 16. <i>Accipiter Mexicanus</i> . Swains.
BLUE-BACKED HAWK. | 33. <i>Asturina Nitida</i> . Bonap.
MEXICAN HAWK. |
| 17. <i>Accipiter Fuscus</i> . Bonap.
SHARP-SHINNED HAWK. | 34. <i>Nauclerus Furcatus</i> . Vigors.
SWALLOW-TAILED HAWK. |

35. *Elanus Leucurus*. Bonap.
WHITE-TAILED HAWK.
36. *Ictinia Mississippiensis*. Gray.
MISSISSIPPI KITE.
37. *Rostrhamus Sociabilis*. D'Orb.
BLACK KITE.
38. *Circus Hudsonius*. Vieillot.
MARSH HAWK.
39. *Aquila Canadensis*. Cassin.
GOLDEN EAGLE; RING-TAILED EAGLE.
40. *Haliaetus Pelagicus*. Siebold.
NORTHERN SEA EAGLE.
41. *Haliaetus Washingtonii*. Jard.
WASHINGTON EAGLE.
42. *Haliaetus Albicilla*. Cuvier.
GRAY SEA EAGLE.
43. *Haliaetus Leucocephalus*. Savigny.
BALD EAGLE.
44. *Pandion Carolinensis*. Bonap.
FISH HAWK.
45. *Polyborus Tharus*. Cassin.
CARACARA EAGLE.
46. *Craxirex Unicinctus*. Cassin.
HARRIS' BUZZARD.
47. *Strix Pratincola*. Bonap.
BARN OWL.
48. *Bubo Virginianus*. Bonap.
GREAT HORNED OWL.
49. *Scops Asio*. Bonap.
MOTTLED OWL.
50. *Scops McCallii*. Cassin.
WESTERN MOTTLED OWL.
51. *Otus Wilsonianus*. Lesson.
LONG-EARED OWL.
52. *Brachyotus Cassinii*. Brewer.
SHORT-EARED OWL.
53. *Syrnium Cinereum*. Aud.
GREAT GRAY OWL.
54. *Syrnium Nebulosum*. Gray.
BARRED OWL.
55. *Nyctale Richardsonii*. Bonap.
SPARROW OWL.
56. *Nyctale Albifrons*. Cassin.
KIRTLAND'S OWL.
57. *Nyctale Acadica*. Bonap.
SAW-WHET OWL.
58. *Athene Hypugaca*. Bonap.
PRAIRIE OWL.
59. *Athene Cunicularia*. Bonap.
BURROWING OWL.
60. *Glaucidium Gnomus*. Cassin.
PIGMY OWL.
61. *Nyctea Nivea*. Gray.
SNOWY OWL.
62. *Surnia Ulula*. Bonap.
HAWK OWL.
63. *Conurus Carolinensis*. Kuhl.
PARAKEET.
64. *Rhynchopsitta Pachyrhyncha*. Bonap.
THICK-BILLED PARROT.
65. *Trogon Mexicanus*. Swainson.
MEXICAN TROGON.
66. *Crotophaga Rugirostris*. Swainson.
BLACK PARROT.
67. *Crotophaga Ani*. Linn.
ANI.
68. *Geococcyx Californianus*. Baird.
PAISANO; CHAPARRAL COCK.
69. *Coccyzus Americanus*. Bonap.
YELLOW-BILLED CUCKOO.
70. *Coccyzus Erythrophthalmus*. Bonap.
BLACK-BILLED CUCKOO.
71. *Coccyzus Minor*. Cab.
MANGROVE CUCKOO.
72. *Campephilus Principalis*. Gray.
IVORY-BILLED WOODPECKER.
73. *Campephilus Imperialis*. Gray.
IMPERIAL WOODPECKER.
74. *Picus Villosus*. Linn.
HAIRY WOODPECKER.
75. *Picus Harrisii*. Aud.
HARRIS' WOODPECKER.
76. *Picus Pubescens*. Linn.
DOWNY WOODPECKER.
77. *Picus Gairdneri*. Aud.
GAIRDNER'S WOODPECKER.
78. *Picus Nuttalli*. Gambel.
NUTTALL'S WOODPECKER.
79. *Picus Scalaris*. Wagler.
TEXAS SAPSUCKER.
80. *Picus Borealis*. Vieill.
RED-CKCKADED WOODPECKER.
81. *Picus Albolarvatus*. Baird.
WHITE-HEADED WOODPECKER.
82. *Picoides Arcticus*. Gray.
THREE-TOED WOODPECKER.
83. *Picoides Hirsutus*. Gray.
BANDED THREE-TOED WOODPECKER.
84. *Picoides Dorsalis*. Baird.
STRIPED THREE-TOED WOODPECKER.
85. *Sphyrapicus Varius*. Baird.
YELLOW-BELLIED WOODPECKER.
86. *Sphyrapicus Nuchalis*. Baird.
RED-THROATED WOODPECKER.
87. *Sphyrapicus Ruber*. Baird.
RED-BREASTED WOODPECKER.
88. *Sphyrapicus Williamsonii*. Baird.
WILLIAMSON'S WOODPECKER.
89. *Sphyrapicus Thyroideus*. Baird.
BROWN-HEADED WOODPECKER.
90. *Hylotomus Pileatus*. Baird.
BLACK WOODPECKER.
91. *Centurus Carolinus*. Bonap.
RED-BELLIED WOODPECKER.
92. *Centurus Flaviventris*. Swains.
YELLOW-BELLIED WOODPECKER.
93. *Centurus Uropygialis*. Baird.
GILA WOODPECKER.
94. *Melanerpes Erythrocephalus*. Swains.
RED-HEADED WOODPECKER.

95. *Melanerpes Formicivorus*. Bonap.
CALIFORNIA WOODPECKER.
96. *Melanerpes Turquatus*. Bonap.
LEWIS'S WOODPECKER.
97. *Colaptes Auratus*. Swains.
YELLOW-SHAFTED FLICKER.
98. *Colaptes Mexicanus*. Swains.
RED-SHAFTED FLICKER.
- 98a. *Colaptes Hybridus*. Baird.
HYBRID WOODPECKER.
99. *Colaptes Chrysoides*. Baird.
100. *Lampornis Mango*. Swains.
MANGO HUMMING BIRD.
101. *Trochilus Colubris*. Linn.
HUMMING BIRD.
102. *Trochilus Alexandri*. Bourc. & Mul.
BLACK-CHINNED HUMMING BIRD.
103. *Selasphorus Rufus*. Swains.
RUFIOUS HUMMING BIRD.
104. *Selasphorus Platycerus*. Gould.
BROAD-TAILED HUMMING BIRD.
105. *Atthis Anna*. Reichenb.
ANNA HUMMING BIRD.
106. *Atthis Costae*. Reichenb.
RUFFED HUMMING BIRD.
107. *Pamptila Melanoleuca*. Baird.
WHITE-THROATED SWIFT.
108. *Nephocetes Niger*. Baird.
BLACK SWIFT.
109. *Chaetura Pelasgia*. Steph.
CHIMNEY SWALLOW.
110. *Chaetura vauxii*. De Kay.
OREGON SWIFT.
111. *Antrostomus Carolinensis*. Gould.
CHUCKWILL'S-WIDOW.
112. *Antrostomus Vociferus*. Bonap.
WHIP-POOR-WILL.
113. *Antrostomus Nuttalli*. Cassin.
POOR-WILL.
114. *Chordeiles Popetue*. Baird.
NIGHT HAWK.
115. *Chordeiles Henryi*. Cassin.
WESTERN NIGHT HAWK.
116. *Chordeiles Texensis*. Lawrence.
TEXAS NIGHT HAWK.
- 116a. *Nyctidromus*.
PAURAQUE.
117. *Ceryle Alcyon*. Boie.
BELTED KING-FISHER.
118. *Ceryle Americana*. Boie.
TEXAS KING-FISHER.
119. *Momotus Caeruliceps*. Gould.
SAW-BILL.
120. *Pachyrhampus Aglaiae*. Lafresn.
ROSE-THROATED FLYCATCHER.
121. *Bathmidurus Major*. Cab.
THICK-BILL.
122. *Milvulus Tyrannus*. Bonap.
FORK-TAILED FLYCATCHER.
123. *Milvulus Forficatus*. Swains.
SCISSOR-TAIL.
124. *Tyrannus Carolinensis*. Baird.
KING BIRD; BEE BIRD.
125. *Tyrannus Dominicensis*. Rich.
GRAY KING BIRD.
126. *Tyrannus Verticalis*. Say.
ARKANSAS FLYCATCHER.
127. *Tyrannus Vociferans*. Swains.
CASSIN'S FLYCATCHER.
128. *Tyrannus Couchii*. Baird.
COUCH'S FLYCATCHER.
129. *Tyrannus Melancholicus*. Vieill.
SILENT FLYCATCHER.
130. *Myiarchus Crinitus*. Cab.
GREAT CRESTED FLYCATCHER.
131. *Myiarchus Mexicanus*. Baird.
ASH-THROATED FLYCATCHER.
132. *Myiarchus Cooperi*. Baird.
MEXICAN FLYCATCHER.
133. *Myiarchus Lawrencii*. Baird.
LAWRENCE'S FLYCATCHER.
134. *Sayornis Nigricans*. Bonap.
BLACK FLYCATCHER.
135. *Sayornis Fuscus*. Baird.
PEWEE.
136. *Sayornis Sayus*. Baird.
SAY'S FLYCATCHER.
137. *Contopus Borealis*. Baird.
OLIVE-SIDED FLYCATCHER.
138. *Contopus Richardsonii*. Baird.
SHORT-LEGGED PEWEE.
139. *Contopus Virens*. Cab.
WOOD PEWEE.
140. *Empidonax Traillii*. Baird.
TRAILL'S FLYCATCHER.
141. *Empidonax Pusillus*. Cab.
LITTLE FLYCATCHER.
142. *Empidonax Minimus*. Baird.
LEAST FLYCATCHER.
143. *Empidonax Acadicus*. Baird.
GREEN-CRESTED FLYCATCHER.
144. *Empidonax Flaviventris*. Baird.
YELLOW-BELLIED FLYCATCHER.
- 144a. *Empidonax Difficilis*. Baird.
WESTERN FLYCATCHER.
145. *Empidonax Hammondi*. Baird.
HAMMOND'S FLYCATCHER.
146. *Empidonax Obscurus*. Baird.
WRIGHT'S FLYCATCHER.
147. *Pyrocephalus Rubineus*. Gray.
RED FLYCATCHER.
148. *Turdus Mustelinus*. Gm.
WOOD THRUSH.
149. *Turdus Pallasi*. Cab.
HERMIT THRUSH.
- 149a. *Turdus Silens*. Swains.
SILENT THRUSH.
150. *Turdus Nanus*. Aud.
DWARF THRUSH.

151. *Turdus Fuscescens*. Stephens.
WILSON'S THRUSH.
152. *Turdus Ustulatus*. Nuttall.
OREGON THRUSH.
153. *Turdus Swainsonii*. Cab.
OLIVE-BACKED THRUSH.
154. *Turdus Aliceae*. Baird.
GRAY-CHEEKED THRUSH.
155. *Turdus Migratorius*. Linn.
ROBIN.
156. *Turdus Naevius*. Gmelin.
VARIED THRUSH.
157. *Saxicola Enanthe*. Bechst.
STONE CHAT.
158. *Sialia Sialis*. Baird.
BLUE BIRD.
159. *Sialia Mexicana*. Swains.
WESTERN BLUE BIRD.
160. *Sialia Arctica*. Swains.
ROCKY MOUNTAIN BLUE BIRD.
161. *Regulus Calendula*. Light.
RUBY-CROWNED WREN.
162. *Regulus Satrapa*. Light.
GOLDEN-CRESTED WREN.
163. *Regulus Cuvieri*. Aud.
CUVIER'S GOLDEN CREST.
164. *Hydrobata Mexicana*. Baird.
WATER OUZEL.
165. *Anthus Ludovicianus*. Light.
TIT-LARK.
166. *Neocorys Spragueii*. Selater.
MISSOURI SKYLARK.
167. *Mniotilta Varia*. Vieill.
BLACK AND WHITE CREEPER.
- 167a. Var. *Mniotilta Longirostris*. Baird.
LONG-BILLED CREEPER.
168. *Parula Americana*. Bonap.
BLUE YELLOW BACK.
169. *Protonotaria Citrea*. Baird.
PROTHONOTARY WARBLER.
170. *Geothlypis Trichas*. Cab.
MARYLAND YELLOW-THROAT.
171. *Geothlypis Velatus*. Cab.
GRAY-HEADED WARBLER.
172. *Geothlypis Philadelphia*. Baird.
MOURNING WARBLER.
173. *Geothlypis Macgillivrayi*. Baird.
MACGILLIVRAY'S WARBLER.
174. *Oporornis Agilis*. Baird.
CONNECTICUT WARBLER.
175. *Oporornis Formosus*. Baird.
KENTUCKY WARBLER.
176. *Icteria Viridis*. Bonap.
YELLOW-BREASTED CHAT.
177. *Icteria Longicauda*. Lawr.
LONG-TAILED CHAT.
178. *Helmitherus Vermivorus*. Bonap.
WORM-EATING WARBLER.
179. *Helmitherus Swainsonii*. Bonap.
SWAINSON'S WARBLER.
180. *Helminthophaga Pinus*. Baird.
BLUE-WINGED YELLOW WARBLER.
181. *Helminthophaga Chrysoptera*. Bon.
GOLDEN-WINGED WARBLER.
182. *Helminthophaga Bachmani*. Cab.
BACHMAN'S WARBLER.
183. *Helminthophaga Ruficapilla*. Bon.
NASHVILLE WARBLER.
- 183a. *Helminthophaga Virginiae*. Baird.
MOUNTAIN WARBLER.
184. *Helminthophaga Celata*. Baird.
ORANGE-CROWNED WARBLER.
185. *Helminthophaga Peregrina*. Cab.
TENNESSEE WARBLER.
186. *Seiurus Auroparillus*. Swains.
GOLDEN-CROWNED THRUSH.
187. *Seiurus Noveboracensis*. Nutt.
WATER THRUSH.
188. *Seiurus Ludovicianus*. Bonap.
LARGE-BILLED WATER THRUSH.
189. *Dendroica Virens*. Baird.
BLACK-THROATED GREEN WARBLER.
190. *Dendroica Occidentalis*. Baird.
WESTERN WARBLER.
191. *Dendroica Townsendii*. Baird.
TOWNSEND'S WARBLER.
192. *Dendroica Nigrescens*. Baird.
BLACK-THROATED GRAY WARBLER.
193. *Dendroica Canadensis*. Baird.
BLACK-THROATED BLUE WARBLER.
194. *Dendroica Coronata*. Gray.
YELLOW-RUMP WARBLER.
195. *Dendroica Audubonii*. Baird.
AUDUBON'S WARBLER.
196. *Dendroica Blackburniae*. Baird.
BLACKBURNIAN WARBLER.
197. *Dendroica Castanea*. Baird.
BAY-BREASTED WARBLER.
198. *Dendroica Pinus*. Baird.
PINE-CREEPING WARBLER.
199. *Dendroica Montana*. Baird.
BLUE MOUNTAIN WARBLER.
200. *Dendroica Pennsylvanica*. Baird.
CHESTNUT-SIDED WARBLER.
201. *Dendroica Caerulea*. Baird.
BLUE WARBLER.
202. *Dendroica Striata*. Baird.
BLACK-POLL WARBLER.
203. *Dendroica Aestiva*. Baird.
YELLOW WARBLER.
204. *Dendroica Maculosa*. Baird.
BLACK AND YELLOW WARBLER.
205. *Dendroica Kirtlandii*. Baird.
KIRTLAND'S WARBLER.
206. *Dendroica Tigrina*. Baird.
CAPE MAY WARBLER.
207. *Dendroica Carbonata*. Baird.
CARBONATED WARBLER.
208. *Dendroica Palmarum*. Baird.
YELLOW RED-POLL.

209. *Dendroica Superciliosa*. Baird.
YELLOW-THROATED WARBLER.
210. *Dendroica Discolor*. Baird.
PRAIRIE WARBLER.
211. *Myiodiocetes Mitratus*. Aud.
HOODED WARBLER.
212. *Myiodiocetes Minutus*. Baird.
SMALL-HEADED FLYCATCHER.
213. *Myiodiocetes Pusillus*. Bonap.
GREEN BLACK-CAP FLYCATCHER.
214. *Myiodiocetes Canadensis*. Aud.
CANADA FLYCATCHER.
215. *Myiodiocetes Bonapartii*. Aud.
BONAPARTE'S FLYCATCHER.
216. *Cardellina Rubra*. Bonap.
VERMILION FLYCATCHER.
217. *Setophaga Ruticilla*. Swains.
REDSTART.
218. *Setophaga Picta*. Swains.
PAINTED FLYCATCHER.
219. *Setophaga Miniata*. Swains.
RED-BELLIED FLYCATCHER.
220. *Pyranga Rubra*. Vieill.
SCARLET TANAGER.
221. *Pyranga Aestiva*. Vieill.
SUMMER RED BIRD.
222. *Pyranga Hepatica*. Swains.
ROCKY MOUNTAIN TANAGER.
223. *Pyranga Ludoviciana*. Bonap.
LOUISIANA TANAGER.
224. *Euphonia Elegantissima*. Gray.
BLUE-HEADED TANAGER.
225. *Hirundo Horreorum*. Barton.
BARN SWALLOW.
226. *Hirundo Lunifrons*. Say.
CLIFF SWALLOW.
227. *Hirundo Bicolor*. Vieill.
WHITE-BELLIED SWALLOW.
228. *Hirundo Thalassina*. Swains.
VIOLET GREEN SWALLOW.
229. *Cotyle Riparia*. Boie.
BANK SWALLOW.
230. *Cotyle Serripennis*. Bonap.
ROUGH-WINGED SWALLOW.
231. *Progne Purpurea*. Boie.
PURPLE MARTIN.
- 231a. *Progne* ———
(Florida).
232. *Ampelis Garrulus*. Linn.
WAX WING.
233. *Ampelis Cedrorum*. Baird.
CEDAR BIRD.
234. *Phainopepla Nitens*. Selater.
BLACK-CRESTED FLYCATCHER.
235. *Myiadestes Townsendii*. Cab.
TOWNSEND'S FLYCATCHER.
236. *Collyrio Borealis*. Baird.
GREAT NORTHERN SHRIKE.
237. *Collyrio Ludovicianus*. Baird.
LOGGERHEAD SHRIKE.
238. *Collyrio Excubitoroides*. Baird.
WHITE-RUMPED SHRIKE.
239. *Collyrio Elegans*. Baird.
WHITE-WINGED SHRIKE.
240. *Vireo Olivaceus*. Vieill.
RED-EYED FLYCATCHER.
241. *Vireo Flavoviridis*. Cassin.
YELLOW-GREEN VIREO.
242. *Vireo Virescens*. Vieill.
BARTRAM'S VIREO.
243. *Vireo Altiloquus*. Gray.
WHIP TOM KELLY.
244. *Vireo Philadelphicus*. Cassin.
PHILADELPHIA VIREO.
245. *Vireo Gilvus*. Bonap.
WARBLING FLYCATCHER.
246. *Vireo Belli*. Aud.
BELL'S VIREO.
247. *Vireo Atricapillus*. Woodh.
BLACK-HEADED FLYCATCHER.
248. *Vireo Noveboracensis*. Bonap.
WHITE-EYED VIREO.
249. *Vireo Huttoni*. Cass.
HUTTON'S FLYCATCHER.
250. *Vireo Solitarius*. Vieill.
BLUE-HEADED FLYCATCHER.
251. *Vireo Cassinii*. Xantus.
CASSIN'S VIREO.
252. *Vireo Flavifrons*. Vieill.
YELLOW-THROATED FLYCATCHER.
253. *Mimus Polyglottus*. Boie.
MOCKING BIRD.
- 253a. Var. *Mimus Caudatus*. Baird.
LONG-TAILED MOCKER.
254. *Mimus Carolinensis*. Gray.
CAT BIRD.
255. *Oreoscoptes Montanus*. Baird.
MOUNTAIN MOCKING BIRD.
256. *Harporhynchus Redivivus*. Cab.
CALIFORNIA THRUSH.
257. *Harporhynchus Lecontei*. Bonap.
LECONTE'S THRUSH.
258. *Harporhynchus Crissalis*. Henry.
RED-VENTED THRUSH.
259. *Harporhynchus Curvirostris*. Cab.
CURVE-BILLED THRUSH.
- 259a. *Harporhynchus Vetula*. Baird.
MEXICAN THRUSH.
260. *Harporhynchus Longirostris*. Cab.
TEXAS THRASHER.
261. *Harporhynchus Rufus*. Cab.
BROWN THRUSH.
- 261a. *Harporhynchus Longicauda*. Bon.
LONG-TAILED THRUSH.
262. *Campylorhynchus Brunneicapillus*.
Gray.
263. *Catherpes Mexicanus*. Baird.
WHITE-THROATED WREN.
264. *Salpinctes Obsoletus*. Cab.
ROCK WREN.

265. *Thryothorus Ludovicianus*. Bonap.
GREAT CAROLINA WREN.
266. *Thryothorus Berlandieri*. Couch.
BERLANDIER'S WREN.
267. *Thryothorus Bewickii*. Bonap.
BEWICK'S WREN.
268. *Cistothorus Palustris*. Cab.
LONG-BILLED MARSH WREN.
269. *Cistothorus Stellaris*. Cab.
SHORT-BILLED MARSH WREN.
270. *Troglodytes Edon*. Vieill.
HOUSE WREN.
271. *Troglodytes Parkmanni*. Aud.
PARKMAN'S WREN.
272. *Troglodytes Americanus*. Aud.
WOOD WREN.
273. *Troglodytes Hyemalis*. Vieill.
WINTER WREN.
274. *Chamaea Fasciata*. Gambel.
GROUND TIT.
275. *Certhia Americana*. Bonap.
AMERICAN CREEPER.
276. *Certhia Mexicana*. Gloger.
MEXICAN CREEPER.
277. *Sitta Carolinensis*. Gmelin.
WHITE-BELLIED NUTHATCH.
278. *Sitta Aculeata*. Cassin.
SLENDER-BILLED NUTHATCH.
279. *Sitta Canadensis*. Linn.
RED-BELLIED NUTHATCH.
280. *Sitta Pusilla*. Latham.
BROWN-HEADED NUTHATCH.
281. *Sitta Pygmaea*. Vigors.
CALIFORNIA NUTHATCH.
282. *Poliophtila Cærulea*. Selat.
BLUE-GRAY GNATCATCHER.
283. *Poliophtila Plumbea*. Baird.
WESTERN GNATCATCHER.
284. *Poliophtila Melanura*. Lawrence.
BLACK-TAILED GNATCATCHER.
285. *Lophophanes Bicolor*. Bonap.
TUFTED TITMOUSE.
286. *Lophophanes Atricristatus*. Cass.
BLACK-CRESTED TIT.
287. *Lophophanes Inornatus*. Cassin.
GRAY TITMOUSE.
288. *Lophophanes Wollweberi*. Bonap.
WOLLWEBER'S TITMOUSE.
289. *Parus Septentrionalis*. Harris.
LONG-TAILED CHICKADEE.
- 289a. Var. *Parus Albescens*. Baird.
HOARY TITMOUSE.
290. *Parus Atricapillus*. Linn.
BLACK-CAP TITMOUSE.
291. *Parus Occidentalis*. Baird.
WESTERN TITMOUSE.
292. *Parus Meridionalis*. Selater.
MEXICAN TITMOUSE.
293. *Parus Carolinensis*. Aud.
CAROLINA TITMOUSE.
294. *Parus Montanus*. Gambel.
MOUNTAIN TITMOUSE.
295. *Parus Rufescens*. Towds.
CHESTNUT-BACKED TIT.
296. *Parus Hudsonicus*. Forster.
HUDSONIAN TITMOUSE.
297. *Psaltriparus Melanotus*. Bonap.
BLACK-CHECKED TIT.
298. *Psaltriparus Minimus*. Bonap.
LEAST TIT.
299. *Psaltriparus Plumbeus*. Baird.
LEAD-COLORED TIT.
300. *Paroides Flaviceps*. Baird.
VERDIN.
301. *Certhiola Flavcola*. Sund.
YELLOW-RUMPED CREEPER.
302. *Eremophila Cormuta*. Boie.
SKY LARK.
303. *Hesperiphona Vesperitina*. Bonap.
EVENING GROSBEEK.
304. *Pinicola Canadensis*. Cab.
PINE GROSBEEK.
305. *Carpodacus Purpureus*. Gray.
PURPLE FINCH.
306. *Carpodacus Californicus*. Baird.
WESTERN PURPLE FINCH.
307. *Carpodacus Cassinii*. Baird.
CASSIN'S PURPLE FINCH.
308. *Carpodacus Frontalis*. Gray.
HOUSE FINCH.
309. *Carpodacus Hæmorrhous*. Wagl.
MEXICAN FINCH.
310. *Chrysomitris Magellanica*. Bonap.
BLACK-HEADED GOLDFINCH.
311. *Chrysomitris Stanleyi*. Bonap.
STANLEY'S GOLDFINCH.
312. *Chrysomitris Yarelli*. Bonap.
YARRELL'S GOLDFINCH.
313. *Chrysomitris Tristis*. Bonap.
YELLOW BIRD.
314. *Chrysomitris Psaltria*. Bonap.
ARKANSAS FINCH.
315. *Chrysomitris Mexicana*. Bonap.
MEXICAN GOLDFINCH.
316. *Chrysomitris Lawrencei*. Bonap.
LAWRENCE'S GOLDFINCH.
317. *Chrysomitris Pinus*. Bonap.
PINE FINCH.
318. *Curvirostra Americana*. Wils.
RED CROSSBILL.
- 318a. Var. *Curvirostra Mexicana*. Strick.
MEXICAN CROSSBILL.
319. *Curvirostra Leucoptera*. Wils.
WHITE-WINGED CROSSBILL.
320. *Ægiothus Linaria*. Cab.
LESSER RED POLL.
321. *Ægiothus Canescens*. Cab.
MEALY RED POLL.
322. *Leucosticte Tephrocotis*. Swains.
GRAY CROWNED FINCH.

323. *Leucosticte Griseinucha*. Bonap.
GRAY-NECKED FINCH.
 324. *Leucosticte Arctous*. Bonap.
ARCTIC FINCH.
 325. *Plectrophanes Nivalis*. Meyer.
SNOW BUNTING.
 326. *Plectrophanes Lapponicus*. Selby.
LAPLAND LONGSPUR.
 327. *Plectrophanes Pictus*. Swains.
SMITH'S BUNTING.
 328. *Plectrophanes Ornatus*. Towds.
CHESTNUT-COLLARED BUNTING.
 329. *Plectrophanes Melanomus*. Baird.
BLACK-SHOULDERED LONGSPUR.
 330. *Plectrophanes Maccownii*. Lawr.
MACCOWN'S LONGSPUR.
 331. *Centronyx Bairdii*. Baird.
BAIRD'S BUNTING.
 332. *Passerculus Savanna*. Bonap.
SAVANNAH SPARROW.
 333. *Passerculus Sandwichensis*. Bl.
NOOTKA SPARROW.
 334. *Passerculus Anthinus*. Bonap.
SPOTTED SPARROW.
 335. *Passerculus Alaudinus*. Bonap.
LARK SPARROW.
 336. *Passerculus Rostratus*. Baird.
BEAKED SPARROW.
 337. *Poocetes Gramineus*. Baird.
GRASS FINCH.
 338. *Coturniculus Passerinus*. Bonap.
YELLOW-WINGED SPARROW.
 339. *Coturniculus Henslowi*. Bonap.
HENSLOW'S BUNTING.
 340. *Coturniculus Lecontei*. Bonap.
LECONTE'S BUNTING.
 341. *Ammodromus Caudacutus*. Swains.
SHARP-TAILED FINCH.
 342. *Ammodromus Maritimus*. Swains.
SEA-SIDE FINCH.
 343. *Ammodromus Samuelis*. Baird.
SAMUEL'S FINCH.
 344. *Chondestes Grammaca*. Bonap.
LARK FINCH.
 345. *Zonotrichia Leucophrys*. Swains.
WHITE-CROWNED SPARROW.
 346. *Zonotrichia Gambelii*. Swains.
GAMBEL'S FINCH.
 347. *Zonotrichia Coronata*. Baird.
GOLDEN-CROWNED SPARROW.
 348. *Zonotrichia Querula*. Gamb.
HARRIS'S FINCH.
 349. *Zonotrichia Albirostris*. Bonap.
WHITE-THROATED SPARROW.
 350. *Junco Cinereus*. Cab.
MEXICAN JUNCO.
 351. *Junco Dorsalis*. Henry.
RED-BACKED SNOW BIRD.
 352. *Junco Oregonus*. Sclat.
OREGON SNOW BIRD.
 353. *Junco Caniceps*. Baird.
GRAY-HEADED SNOW BIRD.
 354. *Junco Hyemalis*. Sclat.
BLACK SNOW BIRD.
 355. *Poospiza Billcata*. Sclat.
BLACK-THROATED SPARROW.
 356. *Poospiza Belli*. Sclat.
BELL'S FINCH.
 357. *Spizella Monticola*. Baird.
TREE SPARROW.
 358. *Spizella Pusilla*. Bonap.
FIELD SPARROW.
 359. *Spizella Socialis*. Bonap.
CHIPPING SPARROW.
 360. *Spizella Pallida*. Bonap.
CLAY-COLORED BUNTING.
 361. *Spizella Breweri*. Cassin.
BREWER'S SPARROW.
 362. *Spizella Atrigularis*. Baird.
BLACK-CHINNED SPARROW.
 363. *Melospiza Melodia*. Baird.
SONG SPARROW.
 364. *Melospiza Heermanni*. Baird.
HEERMANN'S SONG SPARROW.
 365. *Melospiza Gouldii*. Baird.
GOULD'S SPARROW.
 366. *Melospiza Rufina*. Baird.
RUSTY SONG SPARROW.
 367. *Melospiza Fallax*. Baird.
MOUNTAIN SONG SPARROW.
 368. *Melospiza Lincolnii*. Baird.
LINCOLN'S FINCH.
 369. *Melospiza Palustris*. Baird.
SWAMP SPARROW.
 370. *Peucaea Aestivalis*. Cab.
BACHMAN'S FINCH.
 371. *Peucaea Cassinii*. Baird.
CASSIN'S FINCH.
 372. *Peucaea Ruficeps*. Baird.
BROWN-HEADED FINCH.
 373. *Embernagra Rufivirgata*. Lawr.
TEXAS FINCH.
 374. *Passerella Iliaca*. Swains.
FOX-COLORED SPARROW.
 375. *Passerella Townsendii*. Nutt.
OREGON FINCH.
 376. *Passerella Schistacea*. Baird.
SLATE-COLORED SPARROW.
 376a. *Passerella Megarrhynchus*. Baird.
THICK-BILLED FINCH.
 377. *Calamospiza Bicolor*. Bonap.
LARK BUNTING.
 378. *Euspiza Americana*. Bonap.
BLACK-THROATED BUNTING.
 379. *Euspiza Townsendii*. Bonap.
TOWNSEND'S BUNTING.
 380. *Guiraca Ludoviciana*. Swains.
ROSE-BREASTED GROSBEEK.
 381. *Guiraca Melanocephala*. Swains.
BLACK-HEADED GROSBEEK.

382. *Guiraca Caerulea*. Swains.
BLUE GROSBEEK.
383. *Cyanospiza Parellina*. Baird.
BLUE BUNTING.
384. *Cyanospiza Ciris*. Baird.
PAINTED BUNTING.
385. *Cyanospiza Versicolor*. Baird.
VARIED BUNTING.
386. *Cyanospiza Amoena*. Baird.
LAZULI FINCH.
387. *Cyanospiza Cyanea*. Baird.
INDIGO BIRD.
388. *Spermophila Moreletii*. Pucheran.
LITTLE SEEDEATER.
389. *Pyrrhuloxia Sinuata*. Bonap.
TEXAS CARDINAL.
390. *Cardinalis Virginianus*. Bonap.
RED BIRD.
391. *Pipilo Erythrophthalmus*. Vieill.
GROUND ROBIN; TOWHEE
392. *Pipilo Oregonus*. Bell.
OREGON GROUND ROBIN.
393. *Pipilo Arcticus*. Swains.
ARCTIC TOWHEE.
394. *Pipilo Megalonyx*. Baird.
SPURRED TOWHEE.
395. *Pipilo Aberti*. Baird.
ABERT'S TOWHEE.
396. *Pipilo Fuscus*. Swains.
BROWN TOWHEE.
397. *Pipilo Mesoleucus*. Baird.
CANON FINCH.
398. *Pipilo Chlorura*. Baird.
GREEN-TAILED FINCH.
399. *Dolichonyx Oryzivorus*. Swains.
BOBLINK; REED BIRD.
400. *Molothrus Pectoris*. Swains.
COW BIRD.
401. *Agelaius Phoeniceus*. Vieill.
RED-WINGED BLACKBIRD.
402. *Agelaius Gubernator*. Bonap.
RED-SHOULDERED BLACKBIRD.
403. *Agelaius Tricolor*. Bonap.
RED AND WHITE-SHOULDERED BLACKBIRD.
404. *Xanthocephalus Icterocephalus*.
YELLOW-HEADED BLACKBIRD.
405. *Trupialis Militaris*. Bonap.
RED-BREASTED LARK.
406. *Sturnella Magna*. Swains.
MEADOW LARK.
407. *Sturnella Neglecta*. Aud.
WESTERN LARK.
408. *Icterus Vulgaris*. Daudin.
TROUPEAL.
409. *Icterus Audubonii*. Giraud.
AUDUBON'S ORIOLE.
410. *Icterus Melanocephalus*. Gray.
BLACK-HEADED ORIOLE.
411. *Icterus Parisorum*. Bonap.
SCOTT'S ORIOLE.
412. *Icterus Wagleri*. Selater.
WAGLER'S ORIOLE.
413. *Icterus Cucullatus*. Swains.
HOODED ORIOLE.
414. *Icterus Spurius*. Bonap.
ORCHARD ORIOLE.
415. *Icterus Baltimore*. Daudin.
BALTIMORE ORIOLE.
416. *Icterus Bullockii*. Bonap.
BULLOCK'S ORIOLE.
417. *Scolecophagus Ferrugineus*. Swains
RUSTY BLACKBIRD.
418. *Scolecophagus Cyanocephalus*.
BREWER'S BLACKBIRD.
419. *Quiscalus Macroura*. Swains.
LONG-TAILED GRAKLE.
420. *Quiscalus Major*. Vieill.
BOAT-TAILED GRAKLE.
421. *Quiscalus Versicolor*. Vieill.
CROW BLACKBIRD.
422. *Quiscalus Baritus*. Vieill.
FLORIDA BLACKBIRD.
423. *Corvus Carnivorus*. Bartram.
AMERICAN RAVEN.
424. *Corvus Cacalott*. Wagl.
COLORADO RAVEN.
425. *Corvus Cryptoleucus*. Couch.
WHITE-NECKED CROW.
426. *Corvus Americanus*. Aud.
COMMON CROW.
427. Var. *Corvus Floridanus*. Baird.
FLORIDA CROW.
428. *Corvus Caurinus*. Baird.
WESTERN FISH CROW.
429. *Corvus Ossifragus*. Wilson.
FISH CROW.
430. *Picicorvus Columbianus*. Bonap.
CLARK'S CROW.
431. *Gymnokitta Cyanocephala*. Pr. M.
MAXIMILIAN'S JAY.
432. *Pica Hudsonica*. Bonap.
MAGPIE.
433. *Pica Nuttalli*. Aud.
YELLOW-BILLED MAGPIE.
434. *Cyanura Cristata*. Swains.
BLUE JAY.
435. *Cyanura Stelleri*. Swains.
STELLER'S JAY.
436. *Cyanura Macrolophus*. Baird.
LONG-CRESTED JAY.
437. *Cyanocitta Californica*. Strick.
CALIFORNIA JAY.
438. *Cyanocitta Woodhousei*. Baird.
WOODHOUSE'S JAY.
439. *Cyanocitta Floridana*. Bonap.
FLORIDA JAY.
440. *Cyanocitta Sordida*. Baird.
MOUNTAIN JAY.
441. *Cyanocitta Ultramarina*. Strick.
ULTRAMARINE JAY.

442. *Xanthoura Luxuosa*. Bonap.
GREEN JAY.
443. *Perisoreus Canadensis*. Bonap
CANADA JAY.
444. *Psilorhinus Morio*. Gray.
BROWN JAY.
445. *Columba Fasciata*. Say.
BAND-TAILED PIGEON.
446. *Columba Flavirostris*. Wagl.
RED-BILLED DOVE.
447. *Columba Leucocephala*. Linn.
WHITE-HEADED PIGEON.
448. *Ectopistes Migratoria*. Swains.
WILD PIGEON.
449. *Zenaida Amabilis*. Bonap.
ZENAIDA DOVE.
450. *Melopelia Leucophaea*. Bonap,
WHITE-WINGED DOVE.
451. *Zenaidura Carolinensis*. Bonap.
COMMON DOVE.
452. *Scardafella Squamosa*. Bonap.
SCALY DOVE.
453. *Chamaepelia Passerina*. Swains.
GROUND DOVE.
454. *Oreopeleia Martinica*. Reich.
KEY WEST PIGEON.
455. *Starnoenas Cyanocephala*. Bonap.
BLUE-HEADED PIGEON.
456. *Ortalida M'Calli*. Baird.
CHIACALACCA.
457. *Meleagris Gallopavo*. Linn.
WILD TURKEY.
458. *Meleagris Mexicana*. Gould.
MEXICAN TURKEY.
459. *Tetrao Obscurus*. Say.
DUSKY GROUSE.
460. *Tetrao Canadensis*. Linn.
SPRUCE PARTRIDGE.
461. *Tetrao Franklinii*. Douglas.
FRANKLIN'S GROUSE.
462. *Centrocercus Urophasianus*. Swain.
SAGE COCK.
463. *Pedioecetes Phasianellus*. Baird.
SHARP-TAILED GROUSE.
464. *Cupidonia Cupido*. Baird.
PRAIRIE HEN.
465. *Bonasa Umbellus*. Steph.
RUFFED GROUSE.
- 465a. Var. *Bonasa Umbelloides*. Baird.
GRAY MOUNTAIN GROUSE.
466. *Bonasa Sabini*. Baird.
OREGON GROUSE.
467. *Lagopus Albus*. Aud.
WHITE PTARMIGAN.
468. *Lagopus Rupestris*. Leach.
ROCK GROUSE.
469. *Lagopus Leucurus*. Swains.
WHITE-TAILED PTARMIGAN.
470. *Lagopus Americanus*. Aud.
AMERICAN PTARMIGAN.
471. *Ortyx Virginianus*. Bonap.
PARTRIDGE; QUAIL.
472. *Ortyx Texanus*. Lawr.
TEXAS QUAIL.
473. *Oreortyx Pictus*. Baird
MOUNTAIN QUAIL.
474. *Lophortyx Californicus*. Bonap.
CALIFORNIA QUAIL.
475. *Lophortyx Gambelii*. Nutt.
GAMBEL'S PARTRIDGE.
476. *Callipepla Squamata*. Gray.
BLUE PARTRIDGE.
477. *Cyrtonyx Massena*. Gould.
MASSENA PARTRIDGE.
478. *Grus Americanus*. Ord.
WHOOING CRANE.
479. *Grus Canadensis*. Temm.
SAND-HILL CRANE.
480. *Grus Fraterculus*. Cassin.
LITTLE CRANE.
481. *Aramus Giganteus*. Baird.
CRYING BIRD.
482. *Demigretta Pealii*. Baird.
PEALE'S EGRET.
483. *Demigretta Rufa*. Baird.
REDDISH EGRET.
484. *Demigretta Ludoviciana*. Baird.
LOUISIANA HERON.
485. *Garzetta Candidissima*. Bonap.
SNOWY HERON.
486. *Herodias Egretta*. Gray.
WHITE HERON.
- 486a. *Herodias Egretta*, v. *Californica*.
CALIFORNIA EGRET.
487. *Ardea Herodias*. Linn.
GREAT BLUE HERON.
488. *Ardea Wurdemannii*. Baird.
FLORIDA HERON.
489. *Audubonia Occidentalis*. Bonap.
GREAT WHITE HERON.
490. *Florida Cærulea*. Baird.
BLUE HERON.
491. *Ardetta Exilis*. Gray.
LEAST BITTERN.
492. *Botaurus Lentiginosus*. Steph.
BITTERN; STAKE DRIVER.
493. *Butorides Virescens*. Bonap.
GREEN HERON.
494. *Butorides Brunnescens*. Baird.
BROWN HERON.
495. *Nyctiardea Gardeni*. Baird.
NIGHT HERON.
496. *Nyctherodius Violaceus*. Reich.
YELLOW-CROWNED HERON.
497. *Tantalus Loculatur*. Linn.
WOOD IBIS.
498. *Ibis Rubra*. Vieill.
RED IBIS.
499. *Ibis Alba*. Vieill.
WHITE IBIS.

500. *Ibis Ordii*. Bonap.
GLOSSY IBIS.
- 500a. *Ibis Guarana*. Shaw.
BRONZED IBIS.
501. *Platalea Ajaja*. Linn.
ROSY SPOONBILL.
502. *Phoenicopterus Ruber*. Linn.
FLAMINGO.
503. *Charadrius Virginicus*. Borch.
GOLDEN PLOVER.
504. *Aegialitis Vociferus*. Cassin.
KILLDEER.
505. *Aegialitis Montanus*. Cassin.
MOUNTAIN PLOVER.
506. *Aegialitis Wilsonius*. Cassin.
WILSON'S PLOVER.
507. *Aegialitis Semipalmatus*. Cab.
SEMIPALMATED PLOVER.
508. *Aegialitis Melodus*. Cab.
PIPING PLOVER.
509. *Aegialitis Nivosus*. Cassin.
WESTERN PLOVER.
510. *Squatarola Helvetica*. Cuv.
BLACK-BELLIED PLOVER.
511. *Aphriza Virgata*. Gray.
SURF BIRD.
512. *Haematopus Palliatus*. Temm.
OYSTER CATCHER.
513. *Haematopus Niger*. Pallas.
BACHMAN'S OYSTER CATCHER.
514. *Haematopus Ater*. Vieillot.
DUSKY OYSTER CATCHER.
515. *Streptilas Interpres*. Illig.
TURNSTONE.
516. *Streptilas Melanocephala*. Vig.
BLACK TURNSTONE.
517. *Recurvirostra Americana*. Gmel.
AMERICAN AVOSET.
518. *Himantopus Nigricollis*. Vieillot.
BLACK-NECKED STILT.
519. *Phalaropus Wilsonii*. Sab.
WILSON'S PHALAROPE.
520. *Phalaropus Hyperboreus*. Temm.
NORTHERN PHALAROPE.
521. *Phalaropus Fulicarius*. Bonap.
RED PHALAROPE.
522. *Philohela Minor*. Gray.
AMERICAN WOODCOCK.
523. *Gallinago Wilsonii*. Bonap.
ENGLISH SNIPE.
524. *Macrorhamphus Griseus*. Leach.
RED-BREASTED SNIPE.
525. *Macrorhamphus Scolopaceus*. La.
GREATER LONGBEAK.
526. *Tringa Canutus*. Linn.
KNOT.
527. *Tringa Cooperi*. Baird.
COOPER'S SANDPIPER.
528. *Tringa Maritima*. Brännich.
PURPLE SANDPIPER.
529. *Tringa Subarquata*. Temm.
CURLEW SANDPIPER.
530. *Tringa Alpina*. Var. *Americana*. Cas.
RED-BACKED SANDPIPER.
531. *Tringa Maculata*. Vieill.
JACK SNIPE.
532. *Tringa Wilsonii*. Nuttall.
LEAST SANDPIPER.
533. *Tringa Bonapartii*. Schlegel.
BONAPARTE'S SANDPIPER.
534. *Calidris Arcnaria*. Illiger.
SANDERLING.
535. *Ereunetes Petrificatus*. Ill.
SEMIPALMATED SANDPIPER.
536. *Micropalama Himantopus*. Baird.
STILT SANDPIPER.
537. *Symphemia Semipalmata*. Hartl.
WILLET.
538. *Glottis Floridanus*. Bonap.
FLORIDA GREENSHANK.
539. *Gambetta Melanoleuca*. Bonap.
TELL-TALE; STONE SNIPE.
540. *Gambetta Flaripes*. Bonap.
YELLOW LEGS.
541. *Rhyacophilus Solitarius*. Bonap.
SOLITARY SANDPIPER.
542. *Heteroscelus Brevipes*. Baird.
WANDERING TATLER.
543. *Tringoides Macularius*. Gray.
SPOTTED SANDPIPER.
544. *Philomachus Pugnax*. Gray.
RUFF.
545. *Actiturus Bartramius*. Bonap.
FIELD PLOVER.
546. *Tringites Rufescens*. Cab.
BUFF-BREASTED SANDPIPER.
547. *Limosa Fedoa*. Ord.
MARBLED GODWIT.
548. *Limosa Hudsonica*. Swains.
HUDSON GODWIT.
549. *Numenius Longirostris*. Wils.
LONG-BILLED CURLEW.
550. *Numenius Hudsonicus*. Latham.
HUDSONIAN CURLEW.
551. *Numenius Borealis*. Latham.
ESQUIMAUX CURLEW.
552. *Rallus Elegans*. Aud.
MARSH HEN.
553. *Rallus Crepitans*. Gm.
CLATTER RAIL.
554. *Rallus Virginianus*. Linn.
VIRGINIA RAIL.
555. *Porzana Carolina*. Vieill.
COMMON RAIL.
556. *Porzana Jamaicensis*. Cassin.
LITTLE BLACK RAIL.
557. *Porzana Noveboracensis*.
YELLOW RAIL.
558. *Crex Pratensis*. Bechst.
CORN-CRAKE.

559. *Fulica Americana*. Gmelin.
COOT.
560. *Gallinula Galeata*. Bonap.
FLORIDA GALLINULE.
561. *Gallinula Martinica*. Lath.
PURPLE GALLINULE.
- 561a. *Cygnus Americanus*. Sharpless.
AMERICAN SWAN.
562. *Cygnus Buccinator*. Rich.
TRUMPETER SWAN.
563. *Anser Hyperboreus*. Pallas.
SNOW GOOSE.
- 563a. *Anser Albatus*. Cassin.
WHITE GOOSE.
564. *Anser Caerulescens*. Linn.
WHITE-HEADED GOOSE.
565. *Anser Gambelii*. Hartlaub.
WHITE-FRONTED GOOSE.
566. *Anser Frontalis*. Baird.
BROWN-FRONTED GOOSE.
567. *Bernicla Canadensis*. Boie.
CANADA GOOSE.
- 567a. *Bernicla Occidentalis*. Baird.
WESTERN GOOSE.
568. *Bernicla Leucopareia*. Cassin.
WHITE-CHEEKED GOOSE.
569. *Bernicla Hutchinsii*. Bonap.
HUTCHIN'S GOOSE.
570. *Bernicla Brenta*. Steph.
BRANT.
571. *Bernicla Nigricans*. Cassin.
BLACK BRANT.
572. *Bernicla Leucopsis*. (Linn.)
BARNACLE GOOSE.
573. *Chloephaga Canagica*. Bonap.
PAINTED GOOSE.
574. *Dendrocygna Autumnalis*. Eyton.
LONG-LEGGED DUCK.
575. *Dendrocygna Fulva*. Burm.
BROWN TREE-DUCK.
576. *Anas Boschas*. Linn.
MALLARD.
577. *Anas Obscura*. Gmel.
BLACK DUCK.
578. *Aspiza Acuta*. Jenyns.
SPRIG-TAIL; PIN-TAIL.
579. *Nettion Carolinensis*. Baird.
GREEN-WINGED TEAL.
580. *Nettion Crecca*. Kaup.
ENGLISH TEAL.
581. *Querquedula Discors*. Steph.
BLUE-WINGED TEAL.
582. *Querquedula Cyanopterus*. Cassin.
RED-BREASTED TEAL.
583. *Spatula Clypeata*. Boie.
SHOVELLER.
584. *Chauleasmus Streperus*. Gray.
GADWALL.
585. *Mareca Americana*. Stephens.
BALDPATE.
586. *Mareca Penelope*. Bonap.
WIDGEON.
587. *Aix Sponsa*. Boie.
SUMMER DUCK.
588. *Fulix Marila*. Baird.
GREATER BLACK-HEAD.
589. *Fulix Affinis*. Baird.
LITTLE BLACK-HEAD.
590. *Fulix Collaris*. Baird.
RING-NECKED DUCK.
591. *Aythya Americana*. Bonap.
RED-HEAD.
592. *Aythya Vallisneria*. Bonap.
CANVAS-BACK.
593. *Bucephala Americana*. Baird.
GOLDEN EYE.
594. *Bucephala Islandica*. Baird.
BARROW'S GOLDEN EYE.
595. *Bucephala Albeola*. Baird.
BUTTER BALL.
596. *Histrionicus Torquatus*. Bonap.
HARLEQUIN DUCK.
597. *Harelda Glacialis*. Leach.
SOUTH SOUTHERLY.
598. *Polysticta Stelleri*. Eyton.
STELLER'S DUCK.
599. *Lampronetta Fischeri*. Brandt.
SPECTACLED EIDER.
600. *Camptolaemus Labradorius*. Gray.
LABRADOR DUCK.
601. *Melanetta Velvetina*. Baird.
VELVET DUCK.
602. *Pelionetta Perspicillata*. Kaup.
SURF DUCK.
603. *Pelionetta Trowbridgii*. Baird.
LONG-BILLED SCOTER.
604. *Oidemia Americana*. Swains.
SCOTER.
605. *Oidemia Binaculata*. Baird.
HURON SCOTER.
606. *Somateria Mollissima*. Leach.
EIDER DUCK.
607. *Somateria v. Nigra*. Gray.
PACIFIC EIDER.
608. *Somateria Spectabilis*. Leach.
KING EIDER.
609. *Erismatura Rubida*. Bonap.
RUDDY DUCK.
610. *Erismatura Dominica*. Eyton.
BLACK MASKED DUCK.
611. *Mergus Americanus*. Cass.
SHELDRAKE.
612. *Mergus Serrator*. Linn.
RED-BREASTED MERGANSER.
613. *Lophodytes Cucullatus*. Reich.
HOODED MERGANSER.
614. *Mergellus Albellus*. Selby.
SNEW.
615. *Pelecanus Erythrorhynchus*. Gm.
AMERICAN PELICAN.

616. *Pelecanus Fuscus*. Linn.
BROWN PELICAN.
617. *Sula Bassana*. Briss.
GANNET.
618. *Sula Fiber*. (Linn.)
BOOBY.
619. *Tachypetes Aquila*. Vieill.
MAN-OF-WAR BIRD.
620. *Graculus Carbo*. Gray.
COMMON CORMORANT.
621. *Graculus Perspicillatus*. Lawr.
PALLAS'S CORMORANT.
622. *Graculus Cinnamatus*. Gray.
TUFTED CORMORANT.
623. *Graculus Dilophus*. Gray.
DOUBLE-CRESTED CORMORANT.
624. *Graculus Floridanus*. Bonap.
FLORIDA CORMORANT.
625. *Graculus Mexicanus*. Bonap.
MEXICAN CORMORANT.
626. *Graculus Penicillatus*. Bonap.
BRANDT'S CORMORANT.
627. *Graculus Violaceus*. Gray.
VIOLET GREEN CORMORANT.
628. *Plotus Anhinga*. Linn.
SNAKE BIRD; WATER TURKEY.
629. *Phaeton Flavivestris*. Brandt.
YELLOW-BILLED TROPIC BIRD.
630. *Diomedea Exulans*. Linn.
WANDERING ALBATROSS.
631. *Diomedea Brachyura*. Temm.
SHORT-TAILED ALBATROSS.
632. *Diomedea Chlororhynchus*. Gmel.
YELLOW-NOSED ALBATROSS.
633. *Diomedea Fuliginosa*. Gmel.
SOOTY ALBATROSS.
634. *Procellaria Gigantea*. Gmel.
GIGANTIC FULMAR.
635. *Procellaria Glacialis*. Linn.
FULMAR PETREL.
636. *Procellaria Pacifica*. Aud.
PACIFIC FULMAR.
637. *Procellaria Tenuirostris*. Aud.
SLENDER-BILLED FULMAR.
638. *Procellaria Meridionalis*. Lawr.
TROPICAL FULMAR.
639. *Daption Capensis*. Steph.
CAPE PIGEON.
640. *Thalassidroma Fuscata*. Gould.
FORK-TAILED PETREL.
641. *Thalassidroma Hornbyi*. Gray.
HORNBY'S PETREL.
642. *Thalassidroma Leachii*. Temm.
LEACH'S PETREL.
643. *Thalassidroma Melania*. Bonap.
BLACK STORMY PETREL.
644. *Thalassidroma Wilsoni*. Bonap.
WILSON'S PETREL.
645. *Thalassidroma Pelagica*. Bonap.
MOTHER CAREY'S CHICKEN.
646. *Fregetta Lawrencei*. Bonap.
BLACK AND WHITE PETREL.
647. *Puffinus Major*. Faber.
GREATER SHEARWATER.
648. *Puffinus Fuliginosus*. Strick.
SOOTY SHEARWATER.
649. *Puffinus Anglorum*. Temm.
MANK'S SHEARWATER.
650. *Puffinus Obscurus*. Lath.
DUSKY SHEARWATER.
651. *Puffinus Cinereus*. Gmel.
CINEREOUS PETREL.
652. *Stercorarius Catarractes*. Temm.
COMMON SKUA.
653. *Stercorarius Pomarinus*. Temm.
POMARINE SKUA.
654. *Stercorarius Parasiticus*. Temm.
ARCTIC SKUA.
655. *Stercorarius Cephus*. Ross.
BUFFON'S SKUA.
656. *Larus Glaucus*. Brünn.
BURGOMASTER.
657. *Larus Glaucescens*. Licht.
GLAUCOUS-WINGED GULL.
658. *Larus Leucopterus*. Faber.
WHITE-WINGED GULL.
659. *Larus Chalcopterus*. Lawr.
GRAY-WINGED GULL.
660. *Larus Marinus*. Linn.
GREAT BLACK-BACKED GULL.
661. *Larus Argentatus*. Brünn.
HERRING GULL.
662. *Larus Occidentalis*. Aud.
WESTERN GULL.
663. *Larus Californicus*. Lawr.
CALIFORNIA GULL.
664. *Larus Delawarensis*. Ord.
RING-BILLED GULL.
- 664a. *Larus Brachyrhynchus*. Rich.
SHORT-BILLED GULL.
665. *Larus Suckleyi*. Lawr.
SUCKLEY'S GULL.
666. *Blasipus Heermanni*. Bonap.
WHITE-HEADED GULL.
667. *Chroicocephalus Atrocilla*. Linn.
LAUGHING GULL.
668. *Chroicocephalus Franklinii*. Brünn.
FRANKLIN'S ROSY GULL.
669. *Chroicocephalus Cucullatus*. Brünn.
HOODED GULL.
670. *Chroicocephalus Philadelphia*.
BONAPARTE'S GULL.
671. *Chroicocephalus Minutus*. Bruch.
LITTLE GULL.
672. *Rissa Tridactyla*. Bonap.
KITTIWAKE GULL.
673. *Rissa Septentrionalis*. Lawr.
NORTH PACIFIC KITTIWAKE.
674. *Rissa Brevirostris*. Brandt.
SHORT-BILLED KITTIWAKE.

675. *Rissa Nivea*. Bruch.
YELLOW-BILLED GULL.
676. *Pagophila Eburnea*. Kaup.
IVORY GULL.
677. *Pagophila Brachytarsi*. Hölb
SHORT-LEGGED GULL.
678. *Rhodostethia Rosea*. Jard.
WEDGE-TAILED GULL.
679. *Creagrus Furcatus*. Bonap.
SWALLOW-TAILED GULL.
680. *Xema Sabinii*. Bonap.
FORK-TAILED GULL.
681. *Sterna Aranea*. Wils.
MARSH TERN.
682. *Sterna Caspia*. Pallas.
CASPIAN TERN.
683. *Sterna Regia*. Gambel.
ROYAL TERN.
684. *Sterna Elegans*. Gambel.
ELEGANT TERN.
685. *Sterna Acusflavida*. Cabot.
CABOT'S TERN.
686. *Sterna Havelli*. Aud.
HAVELL'S TERN.
687. *Sterna Trudeaui*. Aud.
TRUDEAU'S TERN.
688. *Sterna Fuliginosa*. Gm.
SOOTY TERN.
689. *Sterna Wilsoni*. Bonap.
WILSON'S TERN.
690. *Sterna Macroura*. Naum.
ARCTIC TERN.
691. *Sterna Forsteri*. Nutt.
FORSTER'S TERN.
692. *Sterna Paradisea*. Brünn.
ROSEATE TERN.
693. *Sterna Pikel*. Lawr.
SLENDER-BILLED TERN.
694. *Sterna Frenata*. Gambel.
LEAST TERN.
695. *Hydrochelidon Plumbea*. Wils.
SHORT-TAILED TERN.
696. *Anous Stolidus*. Leach.
NODDY TERN.
697. *Rhynchops Nigra*. Linn.
BLACK SKIMMER.
698. *Colymbus Torquatus*. Brünn.
LOON.
699. *Colymbus Arcticus*. Linn.
BLACK-THROATED DIVER.
700. *Colymbus Pacificus*. Linn.
PACIFIC DIVER.
701. *Colymbus Septentrionalis*. Linn.
RED-THROATED DIVER.
702. *Podiceps Griseigena*. Gray.
RED-NECKED GREBE.
703. *Podiceps Cristatus*. Lath.
CRESTED GREBE.
- 703a. *Podiceps Cooperi*. Lawr.
COOPER'S GREBE.
704. *Podiceps Occidentalis*. Lawr.
WESTERN GREBE.
705. *Podiceps Clarkii*. Lawr.
CLARK'S GREBE.
706. *Podiceps Cornutus*. Latham.
HORNED GREBE.
707. *Podiceps Californicus*. Heermann
CALIFORNIA GREBE.
708. *Podiceps Auritus*. Lath.
EARED GREBE.
- 708a. *Podiceps Dominicus*. Lath.
WHITE-WINGED GREBE.
709. *Podilymbus Podiceps*. Lawr
CAROLINA GREBE.
710. *Alca Impennis*. Linn.
GREAT AUK.
711. *Alca Torda*. Linn.
RAZOR-BILLED AUK.
712. *Mormon Cirrhata*. Bonap.
TUFTED PUFFIN.
713. *Mormon Corniculata*. Naum.
HORNED PUFFIN.
714. *Mormon Glacialis*. Leach.
SEA PARROT; PUFFIN.
715. *Mormon Arctica*. Illiger.
ARCTIC PUFFIN.
716. *Sagmatorrhina Labradoria*. Cas.
LABRADOR AUK.
717. *Cerorhina Monocerata*. Cassin.
SEA HORN-BILL.
718. *Cerorhina Suckleyi*. Cassin.
719. *Phaleris Cristatella*. Bonap.
CRESTED AUK.
720. *Phaleris Tetracula*. Stephens.
DUSKY AUK.
721. *Phaleris Camtschatica*. Cassin.
KAMTSCHATKAN AUK.
722. *Phaleris Microceros*. Brandt.
723. *Phaleris Pusilla*. Cassin.
LEAST AUK.
724. *Ptychorhamphus Aleuticus*. Brt.
CASSIN'S GUILLEMOT.
725. *Ombria Psittacula*. Eschsch.
PARROT AUK.
726. *Uria Grylle*. Latham.
BLACK GUILLEMOT.
727. *Uria Columba*. Cassin.
WESTERN GUILLEMOT.
728. *Uria Carbo*. Brandt.
CROW GUILLEMOT.
729. *Uria Lomvia*. Brünnich.
FOOLISH GUILLEMOT.
730. *Uria Ringvia*. Brünnich.
MURRE.
731. *Uria Arra*. (Pallas).
THICK-BILLED GUILLEMOT.
732. *Brachyrhamphus Marmoratus*.
MARbled GUILLEMOT.
733. *Brachyrhamphus Wrangelii*. Br.
WRANGEL'S GUILLEMOT.

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| <p>734. <i>Brachyrhamphus Brachypterus</i>.
SHORT-WINGED GUILLEMOT.</p> <p>735. <i>Brachyrhamphus Kittlitzii</i>. Br.
KITTLITZ'S GUILLEMOT.</p> <p>736. <i>Brachyrhamphus Antiquus</i>. Br.
ANCIENT AUK.</p> | <p>737. <i>Brachyrhamphus Temminckii</i>. Br.
TEMMINCK'S GUILLEMOT.</p> <p>738. <i>Mergulus Alle</i>. Vieillot.
SEA DOVE.</p> |
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INTRODUCTION.

IN the commencement of a work of such magnitude, and so novel in this country, some account will necessarily be expected of the motives of the author, and of the nature and intended execution of the work. As to the former of these, it is respectfully submitted, that, amusement blended with instruction, the correction of numerous errors which have been introduced into this part of the natural history of our country, and a wish to draw the attention of my fellow-citizens, occasionally, from the discordant jarrings of politics, to a contemplation of the grandeur, harmony, and wonderful variety of Nature, exhibited in this beautiful portion of the animal creation, are my principal, and almost only, motives, in the present undertaking. I will not deny that there may also be other incitements. Biassed, almost from infancy, by a fondness for birds, and little less than an enthusiast in my researches after them, I feel happy to communicate my observations to others, probably from the mere principle of self-gratification, that source of so many even of our most virtuous actions; but I candidly declare, that *lucrative* views have nothing to do in the business. In all my wild-wood rambles *these* never were sufficient either to allure me to a single excursion, to discourage me from one, or to engage my pen or pencil in the present publication. My hopes on this head are humble enough; I ask only support equal to my merits, and to the laudability of my intentions. I expect no more; I am not altogether certain even of this. But leaving the issue of these matters to futurity, I shall, in the meantime, comfort myself with the good old adage: "Happy are they who expect *nothing*, for they shall not be disappointed."

As to the nature of the work, it is intended to comprehend a description and representation of every species of our native birds, from the shores of the St. Lawrence to the mouths of the Mississippi, and from the Atlantic Ocean to the interior of Louisiana: these will be engraved in a style superior to any thing of the kind hitherto published; and colored from nature with the most scrupulous adherence to the true tints of the original.

The bare account of scientific names, color of bills, claws, feathers, &c., would form but a dry detail; neither, in a publication of the present kind, where every species is faithfully figured and colored, is a long

and minute description of the form, and feathers, absolutely necessary. This would, in the opinion of some, be like introducing a gentleman to company, with "ladies and gentlemen, Mr. ———. He has on a blue coat—white pantaloons—hussar boots," &c., &c., while a single glance of eye, over the person himself, told us all this before the orator had time to open his mouth; so infinitely more rapidly do ideas reach us through the medium of the eye, than by that of the ear. But as time may prey on the best of colors, what is necessary in this respect will by no means be omitted, that the figures and descriptions may mutually corroborate each other. It is also my design to enter more largely than usual into the manners and disposition of each respective species; to become, as it were, their faithful biographer, and to delineate their various peculiarities, in character, song, building, economy, &c., as far as my own observations have extended, or the kindness of others may furnish me with materials.

The ORNITHOLOGY of the United States exhibits a rich display of the most splendid colors, from the green, silky, gold-bespangled down of the minute Humming-bird, scarce three inches in extent, to the black coppery wings of the gloomy Condor, of sixteen feet, who sometimes visits our northern regions—a numerous and powerful band of songsters, that for sweetness, variety, and melody, are surpassed by no country on earth—an ever-changing scene of migration, from torrid to temperate and from northern to southern regions, in quest of suitable seasons, food, and climate; and such an amazing diversity in habit, economy, form, disposition and faculties, so uniformly hereditary in each species, and so completely adequate to their peculiar wants and convenience, as to overwhelm us with astonishment at the power, wisdom and beneficence of the Creator!

In proportion as we become acquainted with these particulars, our visits to, and residence in the country, become more and more agreeable. Formerly, on such occasions, we found ourselves in solitude, or with respect to the feathered tribes, as if it were in a strange country, where the manners, language and faces of all were either totally overlooked, or utterly unknown to us: now, we find ourselves among interesting and well-known neighbors and acquaintance; and, in the notes of every songster, recognise with satisfaction the voice of an old friend and companion. A study thus tending to multiply our enjoyments at so cheap a rate, and to lead us, by such pleasing gradations, to the contemplation and worship of the *Great First Cause*, the Father and Preserver of all, can neither be idle nor useless, but is worthy of rational beings, and doubtless agreeable to the Deity.

In order to attain a more perfect knowledge of birds, naturalists have divided them into orders, genera, species, and varieties; but in doing this, scarcely two have agreed on the same mode of arrangement, and

this has indeed proved a source of great perplexity to the student. Some have increased the number of orders to an unnecessary extent, multiplied the genera, and, out of mere varieties, produced what they supposed to be entire new species. Others, sensible of the impropriety of this, and wishing to simplify the science, as much as possible, have reduced the orders and genera to a few, and have thus thrown birds, whose food, habits and other characteristical features are widely different, into one and the same tribe, and thereby confounded our perception of that beautiful gradation of affinity and resemblance, which Nature herself seems to have been studious of preserving throughout the whole. One principal cause of the great diversity of classifications, appears to be owing to the neglect, or want of opportunity, in these writers, of observing the manners of the living birds, in their unconfined state, and in their native countries. As well might philosophers attempt to class mankind into their respective *religious* denominations, by a mere examination of their physiognomy, as naturalists to form a correct arrangement of animals, without a knowledge of these necessary particulars.

It is only by personal intimacy that we can truly ascertain the character of either, more particularly that of the feathered race; noting their particular haunts, modes of constructing their nests, manner of flight, seasons of migration, favorite food, and numberless other minutiae, which can only be obtained by frequent excursions in the woods and fields, along lakes, shores and rivers; and require a degree of patience and perseverance which nothing but an enthusiastic fondness for the pursuit can inspire.

Of the numerous systems which have been adopted by different writers, that published by Dr. Latham, in his "*Index Ornithologicus*," and "*General Synopsis of Birds*," seems the least subject to the objections above-mentioned; and as, in particularizing the order, genus, &c., to which each bird belongs, this system, with some necessary exceptions, has been, *generally* followed in the present work, it is judged proper to introduce it here, for the information, and occasional consultation of the reader.

TABLE
OF THE ORDERS AND GENERA OF BIRDS,
ACCORDING TO LATHAM.

<i>Index Ornithologicus.</i>	<i>Synopsis of Birds.</i>
AVIUM ORDINES.	ORDERS OF BIRDS.
DIV. I.	DIV. I.
I. <i>Accipitres</i> ,	Rapacious.
II. <i>Picæ</i> ,	Pies.
III. <i>Passeres</i> ,	Passerine.
IV. <i>Columbæ</i> ,	Columbine.

*Index Ornithologicus.*V. *Gallinæ*,VI. *Struthiones*,

DIV. II.

VII. *Grallæ*.VIII. *Pinnatipedes*,IX. *Palmipedes*,

AVIUM GENERA.

DIV. I.

AVES TERRESTRES.

ORDO I.

ACCIPITRES.

1. *Vultur*,2. *Falco*,3. *Strix*,

ORDO II.

PICÆ.

4. *Lanius*,5. *Psittachus*,6. *Ramphastos*,7. *Momotus*,8. *Scythrops*,9. *Buceros*,10. *Buphaga*,11. *Crotophaga*,11. **Musophaga*,12. *Callæas*,13. *Corvus*,14. *Coracias*,15. *Oriolus*,16. *Gracula*,17. *Paradisæa*,18. *Trogon*,19. *Bucco*,20. *Cuculus*,21. *Yunks*,22. *Picus*,23. *Galbula*,24. *Alcedo*,25. *Sitta*,26. *Todus*,27. *Merops*,28. *Upupa*,*Synopsis of Birds.*

Gallinaceous.

Struthious.

DIV. II.

Waders.

Pinnated feet.

Web-footed.

GENERA OF BIRDS.

DIV. I.

LAND BIRDS.

ORDER I.

RAPACIOUS.

Vulture.

Falcon.

Owl.

ORDER II.

PIES.

Shrike.

Parrot.

Toucan.

Motmot.

Channel-bill.

Hornbill.

Beef-eater.

Ani.

Plantain-eater.

Wattle-bird.

Crow.

Roller.

Oriole.

Grakle.

Paradise-bird.

Curucui.

Barbet.

Cuckoo.

Wryneck.

Woodpecker.

Jacamar.

Kingfisher.

Nuthatch.

Tody.

Bee-eater.

Hoopoe.

*Index Ornithologicus.*29. *Certhia*,30. *Trochilus*,

ORDO III.

PASSERES.

31. *Sturnus*,32. *Turdus*,33. *Ampelis*,34. *Colius*,35. *Lexia*,36. *Emberiza*,37. *Tanagra*,38. *Fringilla*,39. *Phytotoma*,40. *Muscicapa*,41. *Alauda*,42. *Motacilla*,43. *Sylvia*,44. *Pipra*,45. *Parus*,46. *Hirundo*,47. *Caprimulgus*,

ORDO IV.

COLUMBÆ.

48. *Columba*,

ORDO V.

GALLINÆ.

49. *Pavo*,50. *Meleagris*,51. *Penelope*,52. *Numida*,53. *Craz*,53. **Menura*,54. *Phasianus*,55. *Tinamus*,56. *Tetrao*,57. *Perdix*,58. *Psophia*,59. *Otis*,

ORDO VI.

STRUTHIONES.

60. *Didus*,61. *Struthio*,*Synopsis of Birds.*

Creeper.

Humming-bird.

ORDER III.

PASSERINE.

Starling.

Thrush.

Chatterer.

Coly.

Grosbeak.

Bunting.

Tanager.

Finch.

Plant-cutter.

Flycatcher.

Lark.

Wagtail.

Warbler.

Manakin.

Titmouse.

Swallow.

Goatsucker.

ORDER IV.

COLUMBINE.

Pigeon.

ORDER V.

GALLINACEOUS.

Peacock.

Turkey.

Guan.

Pintado.

Curassow.

Menura.

Pheasant.

Tinamou.

Grouse.

Partridge.

Trumpeter.

Bustard.

ORDER VI.

STRUTHIOUS.

Dodo.

African Ostrich.

*Index Ornithologicus.*62. *Casuarius.*63. *Rhea,*

DIV. II.

AVES AQUATICÆ.

ORDO VII.

GRALLÆ.

64. *Platalea,*65. *Palamedea,*66. *Mycteria,*67. *Cancroma,*68. *Scopus,*69. *Ardea,*70. *Tantalus,*71. *Numenius,*72. *Scolopax,*73. *Tringa,*74. *Charadrius,*75. *Cursorius,*76. *Hæmatopus,*77. *Glareola,*78. *Rallus,*79. *Parra,*79. * *Cereopsis,*80. *Gallinula,*81. *Vaginalis,*

ORDO VIII.

PINNATIPEDES.

82. *Phalaropus,*83. *Fulica,*84. *Podiceps,*

ORDO IX.

PALMIPEDES.

† *Pedibus longioribus,*85. *Recurvirostra,*86. *Corrira,*87. *Phænicopterus,*†† *Pedibus brevioribus,*88. *Diomedea,*89. *Alca,*90. *Uria,*91. *Colymbus,*92. *Rynchops,**Synopsis of Birds.*

Cassowary.

American Ostrich.

DIV. II.

WATER BIRDS.

ORDER VII.

WADERS.

Spoonbill.

Screamer.

Jabiru.

Boatbill.

Umbre.

Heron.

Ibis.

Curlew.

Snipe.

Sandpiper.

Plover.

Courser.

Oyster-catcher.

Pratincole.

Rail.

Jacana.

Cereopsis.

Gallinule.

Sheath-bill.

ORDER VIII.

PINNATED FEET.

Phalarope.

Coot.

Grebe.

ORDER IX.

WEB-FOOTED.

† With long legs.

Avocet.

Courier.

Flamingo.

†† With short legs.

Albatross.

Auk.

Guillemot.

Diver.

Skimmer.

Index Ornithologicus.

- 93. *Sterna*,
- 94. *Larus*,
- 95. *Procellaria*,
- 96. *Mergus*,
- 97. *Anas*,
- 98. *Aptenodytes*,
- 99. *Pelicanus*,
- 100. *Phaeton*,
- 101. *Plotus*,

Synopsis of Birds.

- Tern.
- Gull.
- Petrel.
- Merganser.
- Duck.
- Penguin.
- Pelican.
- Tropic-bird.
- Darter.

It may probably be expected, that, in a publication of this kind, we should commence with the order ACCIPITRES, and proceed, regularly, through the different orders and genera, according to the particular system adopted. This, however desirable, is in the present case altogether impracticable; unless, indeed, we possessed living specimens, or drawings, of every particular species to be described; an acquisition which no private individual, nor public museum in the world, can, as yet, boast of. This work is not intended to be a mere compilation from books, with figures taken from stuffed and dried birds, which would be but a sorry compliment to the science; but a transcript from living Nature, embracing the whole Ornithology of the United States; and as it is highly probable that numerous species, at present entirely unknown, would come into our possession long after that part of the work appropriated for the particular genera to which they belonged had been finished, and thereby interrupt, in spite of every exertion, the regularity of the above arrangement, or oblige us to omit them altogether: considering these circumstances, and that during the number of years which the completion of the present work will necessarily occupy, the best opportunities will be afforded, and every endeavor used, to procure drawings of the whole, a different mode has been adopted, as being more agreeably diversified, equally illustrative of the science, and perfectly practicable; which the other is not. The birds will, therefore, appear without regard to generical arrangement; but the order, genus, &c., of each will be particularly noted; and a complete Index added to the whole, in which every species will be arranged in systematic order, with reference to the volume, page, and plate, where each figure and description may be instantly found.

From the great expense of engravings executed by artists of established reputation, many of those who have published works of this kind, have had recourse to their own ingenuity in etching their plates; but, however honorable this might have been to their industry, it has been injurious to the effect intended to be produced by the figures; since the *point*, alone, is not sufficient to produce a finished engraving; and many

years of application are necessary to enable a person, whatever may be his talents or diligence, to handle the graver with the facility and effect of the pencil; while the time, thus consumed, might be more advantageously employed in finishing drawings, and collecting facts for the descriptive parts, which is the proper province of the Ornithologist. Every person who is acquainted with the extreme accuracy of eminent engravers, must likewise be sensible of the advantage of having the imperfections of the pencil corrected by the excellence of the graver. Every improvement of this kind the author has studiously availed himself of; and has frequently furnished the artist with the living or newly-killed subject itself to assist his ideas.

In coloring the impressions, the same scrupulous attention has been paid to imitate the true-tints of the original. The greatest number of the descriptions, particularly those of the nests, eggs, and plumage, have been written in the woods, with the subjects in view, leaving as little as possible to the lapse of recollection: as to what relates to the manners, habits, &c., of the birds, the particulars on these heads are the result of personal observation, from memoranda taken on the spot; if they differ, as they will in many points, from former accounts, this at least can be said in their behalf, that a single fact has not been advanced which the writer was not himself witness to, or received from those on whose judgment and veracity he believed reliance could be placed. When his own stock of observations has been exhausted, and not till then, he has had recourse to what others have said on the same subject, and all the most respectable performances of a similar nature have been consulted, to which access could be obtained; not neglecting the labors of his predecessors in this particular path, Messrs. Catesby and Edwards, whose memories he truly respects. But, as a sacred regard to truth requires that the errors or inadvertencies of these authors, as well as of others, should be noticed, and corrected, let it not be imputed to unworthy motives, but to its true cause, a zeal for the promotion of that science, in which these gentlemen so much delighted, and for which they have done so much.

From the writers of our own country the author has derived but little advantage. The first considerable list of our birds was published in 1787, by Mr. Jefferson, in his celebrated "Notes on Virginia," and contains the names of one hundred and nine species, with the designations of Linnaeus and Catesby, and references to Buffon. The next, and by far the most complete that has yet appeared, was published in 1791, by Mr. William Bartram, in his "Travels through North and South Carolina," &c., in which two hundred and fifteen different species are enumerated, and concise descriptions and characteristics of each added, in Latin and English. Dr. Barton, in his "Fragments of the Natural History of Pennsylvania," has favored us with a number of remarks on this sub-

ject; and Dr. Belknap, in his "History of New Hampshire," as well as Dr. Williams, in that of Vermont, have each enumerated a few of our birds. But these, from the nature of the publications in which they have been introduced, can be considered only as catalogues of names, without the detail of specific particulars, or the figured and colored representations of the birds themselves. This task, the hardest of all, has been reserved for one of far inferior abilities, but not of less zeal. With the example of many solitary individuals, in other countries, who have succeeded in such an enterprise, he has cheerfully engaged in the undertaking, trusting for encouragement solely to the fidelity with which it will be conducted.

AMERICAN ORNITHOLOGY.

DIV. I. AVES TERRESTRES. LAND BIRDS.

ORDER I. ACCIPITRES. RAPACIOUS.

GENUS I. VULTUR.* VULTURES.

SPECIES I. *VULTUR AURA*.

TURKEY VULTURE, OR TURKEY-BUZZARD.

[Plate LXXV. Fig. 1.]

Vultur aura, LINN. *Syst.* ed. 10, tom. I., p. 86, 4—*Ind. Orn.* p. 4, No. 8—VIEILLLOT, *Ois. de l'Am. Sept.* I., p. 25, pl. 2, bis.—*Carrion Crow*, SLOANE, *Jam.* II., p. 294, tab. 254.—*Carrion Vulture*, LATH. *Gen. Syn.* I., p. 9.—*Le Fautour du Brésil*, BRISS. I., p. 468.—*Turkey-Buzzard*, CATESBY, *Car.* I., p. 6.—BARTRAM'S *Travels.* p. 289.—*Cozcauaauhli*, CLAVIGERO, *Hist. Mex.* I., p. 47, *English translation.*—*American Vulture*, SHAW, *Gen. Zool.* VII., p. 36.

THIS species is well known throughout the United States, but is most numerous in the southern section of the union. In the northern and middle states it is partially migratory, the greater part retiring to the south on the approach of cold weather. But numbers remain all the winter in Maryland, Delaware, and New Jersey; particularly in the vicinity of the large rivers, and the ocean, which afford a supply of food at all seasons.

In New Jersey,† the Turkey-buzzard hatches in May, the deep recesses of the solitary swamps of that state affording situations well suited

* This genus has been divided into several genera, by modern ornithologists. Temminck adopts the four following: 1. *Vultur*. (Illiger). 2. *Cathartes*. (Illiger). 3. *Gypætus*. (Storr). 4. *Gypogerynus*. (Illiger). The two following species belong to the second of these, the genus *Cathartes* of Illiger. No true Vulture in the present restricted acceptance of that genus has been found in America.

† The author mentions New Jersey in particular, as in that state he has visited the breeding places of the Turkey-buzzard, and can therefore speak with certainty of the fact. Pennsylvania, it is more than probable, affords situations equally attractive, which are also tenanted by this Vulture, for hatching and rearing its young.

to the purpose. The female is at no pains to form a nest with materials; but having chosen a suitable place, which is either a truncated hollow tree, or an excavated stump or log, she lays on the rotten wood from two to four eggs, of a dull dirty white, splashed all over with chocolate, mingled with blackish touches, the blotches largest and thickest towards the great end; the form somewhat like the egg of a goose, but blunter at the small end; length two inches and three quarters, breadth two inches. The male watches often while the female is sitting; and if not disturbed they will occupy the same breeding place for several years. The young are clothed with a whitish down, similar to that which covers young goslings. If any person approach the nest, and attempt to handle them, they will immediately vomit such offensive matter, as to compel the intruder to a precipitate retreat.

The Turkey-buzzards are gregarious, peaceable, and harmless; never offering any violence to a living animal, or, like the plunderers of the *Falco* tribe, depriving the husbandman of his stock. Hence, though in consequence of their filthy habits they are not beloved, yet they are respected for their usefulness; and in the southern states, where they are most needed, they, as well as the black vultures, are protected by a law, which imposes a fine on those who wilfully deprive them of life. In the middle and northern states, being unprotected by law, these useful birds are exposed to persecution, and, consequently, they avoid the residence of man. They generally roost in flocks, upon the limbs of large trees; and they may be seen in a summer's morning, spreading out their wings to the rising sun, and remaining in that posture for a considerable time. Pennant conjectures that this is "to purify their bodies, which are most offensively fetid." But is it reasonable to suppose that *that* effluvia can be offensive to them, which arises from food perfectly adapted to their nature, and which is constantly the object of their desires? Many birds, and particularly those of the granivorous kind, have a similar habit, which, doubtless, is attended with the same exhilarating effect, that an exposure to the pure air of the morning has on the frame of one just risen from repose.

The Turkey-buzzards, unless when rising from the earth, seldom flap their wings, but sweep along in ogees, and dipping and rising lines, and move with great rapidity. They are often seen in companies, soaring at an immense height, particularly before a thunderstorm. Their wings are not spread horizontally, but form an acute angle with the body, the tips having an upward curve. Their sense of smelling is astonishingly exquisite,* and they never fail to discover carrion, even when at the

* The British public has lately been amused with the tales of a traveller, on some of the animals of our country. Among several particulars, which force themselves upon the attention of the American reader by their novelty, we are presented with

distance from it of several miles. When once they have found a carcass they will not leave the place, if unmolested, till the whole is devoured. At such times they eat so immoderately, that frequently they are incapable of rising, and may be caught without much difficulty; but few that are acquainted with them will have the temerity to undertake the task. A man in the state of Delaware, a few years ago, observing some Turkey-buzzards regaling themselves upon the carcass of a horse, which was in a highly putrid state, conceived the design of making a captive of one, to take home for the amusement of his children. He cautiously approached, and springing upon the unsuspecting group, grasped a fine plump fellow in his arms, and was bearing off his prize in triumph, when lo! the indignant Vulture disgorged such a torrent of filth in the face of our hero, that it produced all the effects of the most powerful emetic, and for ever cured him of his inclination for Turkey-buzzards.

On the continent of America this species inhabits a vast range of territory, being common,* it is said, from Nova Scotia to Terra del Fuego.† How far, on the Pacific, to the northward of the river Columbia, they are found, we are not informed; but it is ascertained that they extend their migrations to the latter, allured thither by the quantity of dead salmon, which at certain seasons line its shores.

They are numerous in the West India islands, where they are said to be "far inferior in size to those of North America."‡ This leads us to the inquiry, whether or not the present species has been confounded by the naturalists of Europe, with the Black Vulture, or Carrion Crow, which is so common in the southern parts of our continent. If not, why has the latter been totally overlooked in the most noted Ornithologies with which the world has been favored, when it is so conspicuous and remarkable, that there is no stranger that visits South Carolina, Geor-

the result of a series of experiments, which were instituted to prove, that the Turkey-buzzard does not possess the *sense of smelling*! This important enunciation would be calculated to disabuse us, with respect to the popular opinion on this subject, did we not recollect, that the sense of *seeing* had, also, by some ingenious naturalists, been denied to the Mole; and that the Bird of Paradise had been affirmed to be deficient of those useful organs of locomotion—*legs*! The lovers of romance may now felicitate themselves upon the ascendancy of an observer, whose *credible* narratives may aspire to the honor of ranking with the tales of the *artless* John Dunn Hunter, or the wonders of that pink of *veracity*, the renowned Sir John Mandeville.

* In the northern states of our union the Turkey-buzzard is only occasionally seen, it is considered a rare bird by the inhabitants.

† Great numbers of a species of Vulture, commonly called Carrion Crow by the sailors, (*Vultur aura*.) were seen upon this island (New Year's Island, near Cape Horn, lat. 55 S. 67 W.) and probably feed on young seal-cubs, which either die in the birth, or which they take an opportunity to seize upon." Cook calls them Turkey-buzzards. Forster's Voy. II., p. 516, quarto, London, 1777.

‡ Pennant, Arctic Zoology.

gia, or the Spanish provinces, but is immediately struck with the novelty of its appearance? We can find no cause for the Turkey-buzzards of the islands* being smaller than ours, and must conclude that the Carrion Crow, which is of less size, has been mistaken for the former. In the history which follows, we shall endeavor to make it evident that the species described by Ulloa, as being so numerous in South America, is no other than the Black Vulture.

Kolben, in his account of the Cape of Good-Hope, mentions a Vulture, which he represents as very voracious and noxious: "I have seen," says he, "many carcasses of cows, oxen and other tame creatures which the *Eagles* had slain. I say carcasses, but they were rather skeletons, the flesh and entrails being all devoured, and nothing remaining but the skin and bones. But the skin and bones being in their natural places, the flesh being, as it were, scooped out, and the wound, by which the Eagles enter the body, being ever in the belly, you would not, till you had come up to the skeleton, have had the least suspicion that any such matter had happened. The Dutch at the Cape frequently call those Eagles, on account of their tearing out the entrails of beasts, *Strunt-Vogels*, i. e. Dung-birds. It frequently happens, that an ox that is freed from the plough, and left to find his way home, lies down to rest himself by the way; and if he does so, 'tis a great chance but the Eagles *fall upon him and devour him*. They attack an ox or cow in a body, consisting of an hundred and upwards."†

Buffon conjectures that this murderous Vulture is the Turkey-buzzard; and concludes his history of the latter with the following invective against the whole fraternity: "In every part of the globe they are voracious, slothful, offensive and hateful, and, like the wolves, are as *noxious during their life*, as useless after their death."

It turns out, however, that this ferocious Vulture is not the Turkey-buzzard, as may be seen in Levaillant's "*Histoire Naturelle des Oiseaux d'Afrique*," vol. i, pl. 10, where the Chasse-fiente, or Strunt-Vogel, is figured and described. The truth of Kolben's story is doubtful; and we would express our regret, that enlightened naturalists should so readily lend an ear to the romances of travellers, who, to excite aston-

* The Vulture which Sir Hans Sloane figured and described, and which he says is common in Jamaica, is undoubtedly the *Vultur aura*; "The head and an inch in the neck are bare and without feathers, of a flesh color, covered with a thin membrane, like that of turkeys, with which the most part of the bill is covered likewise; bill (below the membrane) more than an inch long, whitish at the point; tail broad and nine inches long; legs and feet three inches long; it flies exactly like a kite, and *preys on nothing living*, but when dead it devours their carcasses, whence they are not molested." Sloane, Nat. Hist. Jam. vol. ii., p. 294, folio.

† Medley's Kolben, vol. ii. p. 135.

ishment, freely give currency to every ridiculous tale, which the designing or the credulous impose upon them.

The Turkey Vulture is two feet and a half in length, and six feet two inches in breadth; the bill, from the corner of the mouth, is almost two inches and a half long, of a dark horn color, for somewhat more than an inch from the tip, the nostril a remarkably wide slit or opening through it; the tongue is greatly concave, cartilaginous, and finely serrated on its edges; ears sub-cordate, eyes dark, in some specimens reddish hazel; wrinkled skin of the head and neck reddish; the neck not so much caruncled as that of the Black Vulture; from the hind-head to the neck feathers, the space is covered with down, of a sooty black color; the fore part of the neck is bare as far as the breast bone, the skin or the lower part, or pouch, very much wrinkled, this naked skin is not discernible without removing the plumage which arches over it; the whole lower parts, lining of the wings, rump and tail-coverts, are of a sooty brown, the feathers of the belly and vent hairy; the plumage of the neck is large and tumid, and, with that of the back and shoulders, black; the scapulars and secondaries are black on their outer webs, skirted with tawny brown, the latter slightly tipped with white; primaries and their coverts plain brown, the former pointed, third primary the longest; coverts of the secondaries, and lesser coverts, tawny brown, centred with black, some of the feathers, at their extremities, slightly edged with white; the tail is twelve inches long, rounded, of a brownish black, and composed of twelve feathers, which are broad at their extremities; inside of wings and tail light ash; the wings reach to the end of the tail; the whole body and neck, beneath the plumage, are thickly clothed with a white down, which feels like cotton; the shafts of the primaries are yellowish white above, and those of the tail brown, both pure white below; the plumage of the neck, back, shoulders, scapulars and secondaries, is glossed with green and bronze, and has purple reflections; the thighs are feathered to the knees; feet considerably webbed; middle toe three inches and a half in length, and about an inch and a half longer than the outer one, which is the next longest; the sole of the foot is hard and rough; claws dark horn color; the legs are of a pale flesh color, and three inches long. The claws are larger, but the feet slenderer, than those of the Carrion Crow. The bill of the male is pure white, in some specimens the upper mandible is tipped with black. There is little or no other perceptible difference between the sexes.

The bird from which the foregoing description was taken, was shot for this work, at Great Egg-harbor, the thirtieth of January. It was a female, in perfect plumage, excessively fat, and weighed five pounds one ounce, avoirdupois. On dissection, it emitted a slight musky odor.

The Vulture is included in the catalogue of those fowls declared unclean, and an abomination, by the Levitical constitution, and which the

Israelites were interdicted *eating*.* We presume that this prohibition was religiously observed, so far at least as it related to the whole family of the Vultures, from whose flesh there arises such an unsavory odor, that we question if all the sweetening processes ever invented, could render it palatable to a Jew, Pagan, or Christian.

Temminck, and some recent ornithologists, have separated our Vultures from the genus *Vultur*, and have classed them under the genus *Cathartes* of Illiger. It should seem that there is a propriety in this arrangement; but as Wilson published, in his sixth volume, the catalogue of his land birds, adopting the genus *Vultur*, as sanctioned by Latham, we have not thought proper, in this instance, to deviate from his plan.†

SPECIES II. *VULTUR JOTA*.

BLACK VULTURE, OR CARRION CROW.

[Plate LXXV. Fig. 2.]

Vultur jota, GMEL. *Syst.* 1., p. 247.—MOLINA, *Hist. Chili*, 1., p. 185, *Am. trans.*—Zepilot, CLAVIGERO, *Hist. Mex.* 1., p. 47, *Eng. trans.*—Gallinazo, ULLOA, *Voy.* 1., p. 52, *Amsterdam ed.*—*Vultur atratus*, BARTRAM, p. 289.—*Vautour du Brésil*, Pl. Ent. 187.—*Vultur aura*, B. LATH. *Ind. Orn.* p. v.—*Le Vautour urubu*, VIEILL. *Ois. de l'Am. Sept.* 1., p. 23, pl. 2.

THE habits of both this and the preceding Vulture are singular. In the towns and villages of the southern states, particularly Charleston and Georgetown, South Carolina, and in Savannah, Georgia, these birds may be seen either sauntering about the streets; sunning themselves on the roofs of the houses, and the fences; or, if the weather be cold, cowering around the tops of the chimneys, to enjoy the benefit of the heat, which to them is a peculiar gratification. They are protected by a law; and may be said to be completely domesticated, being as common as the poultry, and equally as familiar. The inhabitants, generally, are disgusted with their filthy, voracious habits; but notwithstanding, being viewed as contributive to the removal of dead animal matter, which, if permitted to putrefy during the hot season, would render the atmosphere impure, they have a respect paid them as scavengers, whose labors are subservient to the public good. It sometimes happens that, after having gorged themselves, they vomit down the chimneys, which must be intolerably disgusting, and must provoke the ill will of those whose hospitality is thus requited. To obviate this evil, the chimney tops of some houses

* Leviticus, xi., 14. Deuteronomy, xiv. 13.

† From Mr. Ord's supplementary volume.

are furnished with rows of spikes; others are capped, or provided with some apparatus, to hinder the birds from alighting upon them.

The Black Vultures are indolent, and may be observed, in companies, loitering for hours together in one place. They are much darker in their plumage than the Turkey-buzzard. Their mode of flight also varies from that of the latter. The Black Vulture flaps its wings five or six times rapidly, then sails with them extended nearly horizontally; the Turkey-buzzard seldom flaps its wings, and when sailing, they form an upward angle with the body. The latter is not so impatient of cold as the former, and is likewise less lazy. The Black Vulture, when walking at leisure upon the ground, takes great strides—when hurried he runs and jumps awkwardly; the Turkey-buzzard, though seemingly inactive, moves with an even gait. The former, when springing from the ground, will sometimes make a noise exactly resembling the grunt of a pig.

I had been informed, previously to my visit to Georgia, by both William Bartram, and Mr. John Abbot, that the two species did not associate; but I soon discovered that this information was erroneous. I took notice that both of these birds mixed together upon the chimney tops, and the roofs of the houses, and sometimes in the streets; they were equally unsuspicious and tame. It would appear, however, that there are certain districts which are affected by each kind. In the yard of the hotel where I resided, in the town of Savannah, I daily observed numbers of Carrion Crows, unaccompanied by a single Turkey-buzzard. The latter, unless pressed by hunger, will not eat of a carcass until it becomes putrid; the former is not so fastidious, but devours animal food without distinction. Perhaps this may be the reason why the Carrion Crows alone frequent the yards, where servants are in the habit of throwing out animal offals. In the fields, wherever there is a putrid carcass, there will be seen swarms of Turkey-buzzards.

It is said that the Black Vultures sometimes attack young pigs, and eat off their ears and tails; and we have even heard stories of their assaulting feeble calves, and picking out their eyes. But these instances are rare; if otherwise, they would not receive that countenance or protection, which is so universally extended to them, in the states of South Carolina and Georgia, where they abound.

In one of Wilson's journals, I find an interesting detail of the greedy and disgusting habits of this species; and shall give the passage entire, in the same unadorned manner in which it is written.

"February 21, 1809. Went out to Hampstead* this forenoon. A horse had dropped down in the street, in convulsions; and dying, it was dragged out to Hampstead and skinned. The ground, for a hundred

* Near Charleston, South Carolina.

yards around it, was black with Carrion Crows; many sat on the tops of sheds, fences, and houses within sight; sixty or eighty on the opposite side of a small stream. I counted at one time two hundred and thirty-seven, but I believe there were more, besides several in the air over my head, and at a distance. I ventured, cautiously, within thirty yards of the carcass, where three or four dogs, and twenty or thirty Vultures, were busily tearing and devouring. Seeing them take no notice, I ventured nearer, till I was within ten yards, and sat down on the bank. Still they paid little attention to me. The dogs being sometimes accidentally flapped with the wings of the Vultures, would growl and snap at them, which would occasion them to spring up for a moment, but they immediately gathered in again. I remarked the Vultures frequently attack each other, fighting with their claws or heels, striking like a cock, with open wings, and fixing their claws in each other's head. The females, and I believe the males likewise, made a hissing sound, with open mouth, exactly resembling that produced by thrusting a red-hot poker into water; and frequently a snuffling, like a dog clearing his nostrils, as I suppose they were theirs. On observing that they did not heed me, I stole so close that my feet were within one yard of the horse's legs, and again sat down. They all slid aloof a few feet; but seeing me quiet, they soon returned as before. As they were often disturbed by the dogs, I ordered the latter home: my voice gave no alarm to the Vultures. As soon as the dogs departed, the Vultures crowded in such numbers, that I counted at one time thirty-seven on and around the carcass, with several within; so that scarcely an inch of it was visible. Sometimes one would come out with a large piece of the entrails which in a moment was surrounded by several others, who tore it in fragments, and it soon disappeared. They kept up the hissing occasionally. Some of them having their whole legs and heads covered with blood, presented a most savage aspect. Still as the dogs advanced I would order them away, which seemed to gratify the Vultures; and one would pursue another to within a foot or two of the spot where I was sitting. Sometimes I observed them stretching their necks along the ground, as if to press the food downwards."

The Carrion Crow is seldom found, on the Atlantic, to the northward of Newbern, North Carolina, but inhabits, as far as we can ascertain, the whole southern continent. Don Ulloa, in taking notice of the birds of Carthage, gives an account of a Vulture, which we shall quote, in order to establish the opinion, advanced in the preceding history, that it is the present species. We shall afterwards subjoin other testimony in confirmation of this opinion. With respect to the marvellous tale of their attacking the cattle in the pastures, it is too improbable to merit a serious refutation; and it is to be regretted that Vieillot should have

perpetuated this slander, which is so absurd, that we wonder how it could have escaped his animadversion.

"It would be too great an undertaking," says Ulloa, "to describe all the extraordinary birds that inhabit this country; but I cannot refrain from taking notice of that to which they give the name of *Gallinazo*, from the resemblance it has to the Turkey-hen. This bird is of the size of the Pea-hen, but its head and neck are somewhat larger. From the crop to the base of the bill there are no feathers; and the skin, which is of a *brownish black color*, is wrinkled and rough, and covered with small warts and tubercles. The plumage of the bird is also black. The bill is well proportioned, strong, and a little hooked. These birds are familiar in Carthagera, the tops of the houses are covered with them. They are very serviceable, in cleansing the city of all its animal impurities. There are few animals killed whereof they do not obtain the offals; and when this food is wanting, they have recourse to other filth. Their sense of smelling is so acute, that it enables them to trace carrion at the distance of three or four leagues; which they do not abandon until there remains nothing but the skeleton.

"The great number of these birds found in such hot climates, is an excellent provision of nature; as otherwise, the putrefaction caused by the constant and excessive heat, would render the air insupportable to human life. When first they take wing, they fly heavily; but afterwards they rise so high as to be entirely invisible. On the ground they walk sluggishly. Their legs are well proportioned; they have three toes forward, turning inwards, and one in the inside, inclining a little backwards, so that the feet interfering, they cannot walk with any agility, but are obliged to *hop*; each toe is furnished with a long and stout claw.

"When the Gallinazos are deprived of carrion, or food in the city, they are driven by hunger among the cattle of the pastures. If they see a beast with a sore on the back, they alight on it, and attack the part affected; and it avails not that the poor animal *throws itself upon the ground*, and endeavors to intimidate them with its bellowing: *they do not quit their hold!** and by means of their bill they so soon enlarge the wound, that the animal finally becomes their prey."†

The account, from the same author, of the beneficial effects resulting

* The faculty of prehension, which is possessed, in a remarkable degree, by the whole of the *Falco* tribe, but slightly appertains to Vultures, as is evidenced by their feet and claws; hence all the stories which are related, of their seizing upon their prey, and bearing it off in their talons, are apocryphal. We would extend this remark to the far-famed Condor, whose history has been embellished with feats of strength, not a little allied to the marvellous.

† Voyage Historique de l'Amérique Méridionale, par Don George Juan, et Don Antoine De Ulloa, liv. I., chap. viii., p. 52. A Amsterdam et à Leipzig, 1752, quarto.

from the fondness of the vultures for the eggs of the alligator, merits attention.

"The Gallinazos are the most inveterate enemies of the alligators, or rather they are extremely fond of their eggs; and employ much stratagem to obtain them. During the summer, these birds make it their business to watch the female alligators; for it is in that season that they deposit their eggs in the sand of the shores of the rivers, which are not then overflowed. The Gallinazo conceals itself among the branches and leaves of a tree, so as to be unperceived by the alligator, and permits the eggs quietly to be laid, not even interrupting the precautions that she takes to conceal them. But she is no sooner under the water, than the Gallinazo darts upon the nest; and with its bill, claws, and wings, uncovers the eggs, and gobbles them down, leaving nothing but the shells. This banquet would indeed richly reward its patience, did not a multitude of Gallinazos join the fortunate discoverer, and share in the spoil.

"How admirable the wisdom of that Providence, which hath given to the male alligator an inclination to devour its own offspring; and to the Gallinazo a taste for the eggs of the female! Indeed neither the rivers, nor the neighboring fields, would otherwise be sufficient to contain the multitudes that are hatched; for notwithstanding the ravages of both these insatiable enemies, one can hardly imagine the numbers that remain."*

The Abbé Clavigero, in his History of Mexico, has clearly indicated the present species, as distinguished from the Turkey-buzzard.

"The business of clearing the fields of Mexico, is reserved principally for the *Zopilots*, known in South America by the name of *Gallinazzi*; in other places, by that of *Aure*; and in some places, though very improperly, by that of Ravens. There are two very different species of these birds; the one, the Zopilot, properly so called, the other called the *Cozcaquauhtli*: they are both bigger than the Raven. These two species resemble each other in their hooked bill and crooked claws, and by having upon their head, instead of feathers, a wrinkled membrane, with some curling hairs. They fly so high, that although they are pretty large, they are lost to the sight; and especially before a hail storm they will be seen wheeling, in vast numbers under the loftiest clouds, till they entirely disappear. They feed upon carrion, which they discover by the acuteness of their sight and smell, from the greatest height, and descend upon it with a majestic flight, in a great spiral course. They are both almost mute. The two species are distinguished, however, by their size, their color, their numbers, and some other peculiarities. The Zopilots, properly so called, have black feathers, with a

* Liv. iv., chap. ix., p. 172.

brown head, bill, and feet; they go often in flocks, and roost together upon trees. This species is very numerous, and is to be found in all the different climates; while on the contrary, the Cozcaquauhtli is far from numerous, and is peculiar to the warmer climates alone.* The latter bird is larger than the Zopilot, has a red head and feet, with a beak of a deep red color, except towards its extremity, which is white. Its feathers are brown, except upon the neck and parts about the breast, which are of a reddish black. The wings are of an ash color upon the inside, and upon the outside are variegated with black and tawny.

"The Cozcaquauhtli is called by the Mexicans, *King of the Zopilots*;† and they say, that when these two species happen to meet together about the same carrion, the Zopilot never begins to eat till the Cozcaquauhtli has tasted it. The Zopilot is a most useful bird to that country, for they not only clear the fields, but attend the crocodiles, and destroy the eggs which the females of those dreadful amphibious animals leave in the sand, to be hatched by the heat of the sun. The destruction of such a bird ought to be prohibited under severe penalties."‡

"The *Jota* (*Vultur jota*)," says the abbé Molina, "resembles much the *Aura*, a species of vulture, of which there is perhaps but one variety. It is distinguished, however, by the beak, which is gray with a black point. Notwithstanding the size of this bird, which is nearly that of the turkey, and its strong and crooked talons, it attacks no other, but feeds principally upon carcasses and reptiles. It is extremely indolent, and will frequently remain for a long time almost motionless, with its wings extended, sunning itself upon the rocks, or the roofs of the houses. When in pain, which is the only time that it is known to make any noise, it utters a sharp cry like that of a rat; and usually disgorges what it has eaten. The flesh of this bird emits a fetid smell that is highly offensive. The manner in which it builds its nest is perfectly correspondent to its natural indolence; it carelessly places between rocks, or even upon the ground, a few dry leaves or feathers, upon which it lays two eggs of a dirty white."§

The Black Vulture is twenty-six inches in length, and four feet eleven inches in extent; the bill is two inches and a half long, of a pale horn color as far as near an inch, the remainder, with the head, and wrinkled skin of the neck, a dirty scurfy black; tongue similar to that of the Turkey-buzzard; nostril an oblong slit; irides dark reddish hazel; ears subnate; the throat is dashed with yellow ochre in some specimens;

* This is a mistake.

† This is the *Vultur aura*. The bird which now goes by the name of *King of the Zopilots*, in New Spain, is the *Vultur papa* of Linnæus.

‡ Clavigero's Mexico, translated by Cullen, vol. i., p. 47, London.

§ Hist. Chili, Am. trans. i., p. 185.

neck feathers below the caruncled skin much inflated, and very thick; the general color of the plumage is a dull black, except the primaries, which are whitish on the inside, and have four of their broadened edges below of a drab, or dark cream color, extending two inches, which is seen only when the wing is unfolded, the shafts of the feathers white on both sides; the rest of the wing feathers dark on both sides; secondaries, scapulars and tail, with a slight coppery gloss; the wings when folded are about the length of the tail, the fifth feather being the longest; the secondaries are two inches shorter than the tail, which is composed of twelve feathers, and slightly forked, or nearly square; the exterior feathers three-quarters of an inch longer than the rest; the legs are of a dirty limy white, three inches and a half in length, and, with the feet, are thick and strong; the middle toe, including the claw, is four inches long, side toes two inches, and connected to the middle as far as the first joint; inner toe rather the shortest; hind toe pointing inward; claws strong, but not sharp like those of the *Falco* genus, middle claw three-quarters of an inch long; the stomach is not lined with hair as reported. When opened, this bird smells strongly of musk, so much so as to be quite offensive. Sexes nearly alike.

Mr. Abbot informs me that the Carrion Crow builds its nest in the large trees of the low wet swamps, to which places they retire every evening to roost. "They frequent," says he, "that part of the town of Savannah where the hog-butchers reside, and walk about the streets, in great numbers, like domestic fowls. It is diverting to see, when the entrails and offals of the hogs are thrown to them, with what greediness they scramble for the food, seizing upon it, and pulling one against another until the strongest prevails. The Turkey-buzzard is accused of killing young lambs and pigs, by picking out their eyes, but I believe that the Carrion Crow is not guilty of the like practices." When taken alive, this bird bites excessively hard, and its bill, which is very sharp on its edges, is capable of inflicting severe wounds, as I myself experienced.

It is really astonishing that the European naturalists should so long have overlooked the difference which there is between this species and the Turkey-buzzard, in their external conformation. Their heads are differently shaped; their bills and nostrils are considerably unlike; and the arrangement of the neck plumage is entirely dissimilar, as our figures will show. The Turkey-buzzard's neck, along the œsophagus, as far as the breast bone, is bare of feathers, though this nakedness is concealed by the adjacent plumage; the same part in the Carrion Crow is completely clothed. The down of both species has the same cottony appearance.

The drab color on the primaries is not visible when the wing is closed, consequently the marking on the wing of our figure is incorrect.

In the month of December, 1815, a solitary individual of this species made its appearance in Philadelphia. This visitor, as may be presumed, occasioned not a little surprise. It was shot with an air rifle, while perched upon a chimney of a large house in Chestnut street. This bird was put into my hands for examination; and from the appearance of its plumage, I had reason to conjecture that it had escaped from confinement.

From Vieillot's figure and description of the Black Vulture, we must conclude that he had never seen it, either alive, or in a recent state, otherwise he would not have committed the egregious error of representing the naked skin of the bill, head and neck, of a *blood red*, when these parts are of a scurfy, black color, resembling the skin of a dirty negro.*

GENUS II. FALCO. FALCONS.

SPECIES I. *F. PEREGRINUS*.

GREAT-FOOTED HAWK.

[Plate LXXVI. Female.]

Falco Peregrinus, GMEL. *Syst.* 1., p. 272, 88.—BRISS. 1., p. 341, 6, and Var. A.—*Ind. Orn.* p. 33, No. 72.—*Falco Barbarus*, LINN. *Syst.* ed. 10, tom i., p. 88, No. 6.—GMEL. *Syst.* 1., p. 272, 8.—*Ind. Orn.* p. 33, No. 71.—*Falco hornotinus*, BRISS. 1., p. 324, A. *Falco niger*, Id. p. 327, E. *Falco maculatus*, Id. p. 329, F.—*Peregrine Falcon*, LATH. *Syn.* 1., p. 73, No. 52. Id. suppl. p. 18.—PENN. *Brit. Zool.* No. 48, pl. 20. *Arct. Zool.* No. 97.—SHAW, *Gen. Zool.* vol. vii., p. 128.—MONTAGU, *Orn. Dict. and Suppl.*—LOW, *Fauna, Orcadensis*, p. 150.—*Common Falcon*, LATH. *Syn.* 1., p. 65, No. 49, var. A. p. 67, var. E. p. 68, var. F.—*Spotted Hawk or Falcon*, EDWARDS, 1., pl. 3. *Black Hawk or Falcon*, Id. pl. 4, both from Hudson's Bay.—*Le Lanier*, Pl. enl. 430, old male. *Le Faucon noir et passager*, Id. 469, young female? *Le Faucon sors*, Id. p. 470, yearling.—*Faucon pèlerin*, TEMM. *Man. d'Orn.* p. 22.

It is with great pleasure that we are now enabled to give a portrait of this celebrated Falcon, drawn of half the size of life, in the best manner of our deceased friend; and engraved by the accurate and ingenious Lawson.

This noble bird had excited our curiosity for a long time. Every visit which we made to the coast, was rendered doubly interesting by the wonderful stories which we heard of its exploits in fowling, and of its daring enterprise. There was not a shooter along the shore but knew it well; and each could relate something of it which bordered on the marvellous. It was described as darting, with the rapidity of an arrow,

* From Mr. Ord's supplementary volume.

upon the ducks when on the wing, and striking them down with the projecting bone of its breast. Even the wild geese were said to be in danger from its attacks, it having been known to sacrifice them to its rapacity.

To behold this hero, the terror of the wild fowl, and the wonder of the sportsmen, was the chief object of our wishes. Day after day did we traverse the salt marshes, and explore the ponds and estuaries, where the web-footed tribes assemble in immense multitudes, in the hope of obtaining the imperial depredator; even all the shooters of the district were summoned to our aid, with the assurance of a great reward if they procured him, but without success. At length, in the month of December, 1812, to the unspeakable joy of Wilson, he received from Egg Harbor a fine specimen of the far-famed Duck Hawk; which was discovered, contrary to his expectations, to be of a species which he had never before beheld.

If we were to repeat all the anecdotes which have been related to us of the achievements of the Duck Hawk, they would swell our pages at the expense, probably, of our reputation. Naturalists should be always on their guard when they find themselves compelled to resort to the observations of others; and record nothing as fact, which has not been submitted to the temperate deliberations of reason. The neglect of this procedure has been a principal cause, why errors and absurdities have so frequently deformed the pages of works of science, which, like a plain mirror, ought to reflect only the true images of nature.

From the best sources of information, we learn that this species is adventurous and powerful; that it darts upon its prey with astonishing velocity; and that it strikes with its formidable feet, permitting the duck to fall previously to securing it. The circumstance of the hawk's never carrying the duck off on striking it, has given rise to the belief of that service being performed by means of the breast, which vulgar opinion has armed with a projecting bone, adapted to the purpose. But this cannot be the fact, as the breast bone of this bird does not differ from that of others of the same tribe, which would not admit of so violent a concussion.

When the water fowl perceive the approach of their enemy, a universal alarm pervades their ranks; even man himself, with his engine of destruction, is not more terrible. But the effect is different. When the latter is beheld, the whole atmosphere is enlivened with the whistling of wings; when the former is recognised, not a duck is to be seen in the air: they all speed to the water, and there remain until the hawk has passed them, diving the moment he comes near them. It is worthy of remark, that he will seldom, if ever, strike over the water, unless it be frozen; well knowing that it will be difficult to secure his quarry. This is something more than instinct.

When the sportsmen perceive the hawk knock down a duck, they frequently disappoint him of it, by being first to secure it. And as one evil turn, according to the maxim of the multitude, deserves another, our hero takes ample revenge on them, at every opportunity, by robbing them of their game, the hard-earned fruits of their labor.

The Duck Hawk, it is said, often follows the steps of the shooter, knowing that the ducks will be aroused on the wing, which will afford it an almost certain chance of success.

We have been informed that those ducks which are struck down, have their backs lacerated from the rump to the neck. If this be the fact, it is a proof that the hawk employs only its talons, which are long and stout, in the operation. One respectable inhabitant of Cape May told us, that he had seen the hawk strike from below.

This species has been long known in Europe; and, in the age of Falconry, was greatly valued for those qualifications which rendered it estimable to the lovers and followers of that princely amusement. But we have strong objections to its specific appellation. The epithet *peregrine* is certainly not applicable to our hawk, which is not migratory, as far as our most diligent inquiries can ascertain; and as additional evidence of the fact, we ourselves have seen it prowling near the coast of New Jersey, in the month of May, and heard its screams, which resemble somewhat those of the Bald Eagle, in the swamps wherein it is said to breed. We have therefore taken the liberty of changing its English name for one which will at once express a characteristic designation, or which will indicate the species without the labor of investigation.*

"This species," says Pennant, "breeds on the rocks of Llandidno, in Caernarvonshire, Wales. That promontory has been long famed for producing a generous kind, as appears by a letter extant in Gloddaeth library, from the lord treasurer Burleigh to an ancestor of Sir Roger Mostyn, in which his lordship thanks him for a present of a fine cast of hawks taken on those rocks, which belong to the family. They are also very common in the north of Scotland; and are sometimes trained for falconry by some few gentlemen who still take delight in this amusement in that part of Great Britain. Their flight is amazing rapid; one that was reclaimed by a gentleman in the Shire of Angus, a county on the east side of Scotland, eloped from its master with two heavy bells attached to each foot, on the 24th of September, 1772, and was killed in the morning of the 26th, near Mostyn, Flintshire."†

The same naturalist, in another place, observes, that "*the American*

* "Specific names, to be perfect, ought to express some peculiarity, common to no other of the genus." Am. Orn. i., p. 65.

† British Zoology.

*species is larger than the European.** They are subject to vary. The Black Falcon, and the Spotted Falcon, of Edwards, are of this kind; each preserves a specific mark, in the black stroke which drops from beneath the eyes, down towards the neck.

"Inhabits different parts of North America, from Hudson's Bay as low as Carolina. In Asia, is found on the highest parts of the Uralian and Siberian chain. Wanders in summer to the very Arctic circle. Is common in Kamtschatka."†

Low says, that this species is found in all the head-lands, and other inaccessible rocks, of Orkney. "It is the falcon, or more noble species of hawk, which was formerly so much coveted, and brought from Orkney. In the Burgh of Birsa I observed the dark-colored kind, so beautifully engraved in the additional volume of the British Zoology. It is likewise found in Marwick-head, Hoy, Walls, Copinsha, and elsewhere in Orkney; likewise in the Fair Isle and Foula; as also in Lamhoga of Fetlor, Fitful, and Sumburgh-Heads of Shetland.

"Never more than one pair of this species inhabit the same rock; and when the young are fit, they are driven out to seek new habitations for themselves. The Falcon's nest, like the Eagle's, is always in the very same spot, and continues so past memory of man."‡

In the breeding season, the Duck Hawk retires to the recesses of the gloomy cedar swamps, on the tall trees of which it constructs its nest, and rears its young, secure from all molestation. In those wilds, which present obstacles almost insuperable to the foot of man, the screams of this bird, occasionally mingled with the hoarse tones of the Heron, and the hootings of the Great-horned Owl, echoing through the dreary solitude, arouse in the imagination all the frightful imagery of desolation. Wilson, and the writer of this article, explored two of these swamps, in the month of May, 1813, in pursuit of the Great Heron, and the subject of this chapter; and although they were successful in obtaining the former, yet the latter eluded their research.

The Great-footed Hawk is twenty inches in length, and three feet eight inches in breadth; the bill is inflated, short and strong, of a light blue color, ending in black, the upper mandible with a tooth-like process, the lower with a corresponding notch, and truncate; nostrils round, with a central point like the pistil of a flower; the eyes are large, irides of a dark brown; cere and orbits pale bluish white; the cartilage over the eyes prominent; frontlet whitish; the head above, cheeks and back,

* If we were to adopt the mode of philosophizing of the Count de Buffon, we should infer that the European species is *a variety of our more generous race, degenerated by the influence of food and climate!*

† Arctic Zoology.

‡ Low's Natural History of the Quadrupeds, Birds, Reptiles, and Fishes, of Orkney and Shetland; published by William Elford Leach, M. D., 4to. 1813.

are black; the wings and scapulars are brownish black, each feather edged with paler, the former long and pointed, reaching almost to the end of the tail; the primaries and secondaries are marked transversely, on the inner vanes, with large oblong spots of ferruginous white; the exterior edge of the tip of the secondaries curiously scalloped, as if a piece had been cut out; the tertials incline to ash color; the lining of the wings is beautifully barred with black and white, and tinged with ferruginous; on a close examination, the scapulars and tertials are found to be barred with faint ash; all the shafts are black; the rump and tail-coverts are light ash, marked with large dusky bars; the tail is rounding, black, tipped with reddish white, and crossed with eight narrow bars of very faint ash; the chin and breast, encircling the black mustaches, are of a pale buff color; breast below, and lower parts, reddish buff, or pale cinnamon, handsomely marked with roundish or heart-shaped spots of black; sides broadly barred with black; the femorals are elegantly ornamented with herring-bones of black, on a buff ground; the vent is pale buff, marked as the femorals, though with less numerous spots; the feet and legs are of a dirty white, stained with yellow ochre, the legs short and stout, feathered a little below the knees, the bare part one inch in length; span of the foot five inches, with a large protuberant sole; middle toe as long as the tarsus; the claws are large and black, middle one three-quarters of an inch long, hind claw seven-eighths of an inch.

The most striking characters of this species are the broad patch of black dropping below the eye, and the uncommonly large feet. It is stout, heavy, and firmly put together.

The bird from which the above description was taken, was shot in a cedar swamp, in Cape May county, New Jersey. It was a female, and contained the remains of small birds, among which were discovered the legs of the Sanderling. The figure in the plate is an excellent resemblance of the original, which was handsomely set up in the Philadelphia Museum.

I am indebted to Mr. Titian Peale, for the view of an immature specimen of the Duck Hawk, which he shot near the Rocky Mountains; it was quite young, having just left the nest. Its colors were principally a dirty white, and a reddish brown; the patch below the eye not very conspicuous; but the characters of the bill and feet proved the species.

According to Temminck, the Peregrine Falcon never inhabits marshy countries; but this, I presume, is a mistake, as our bird is remarkable for its attachment to those places which are affected by the water fowl; and it is well known that the latter abound in all the marshes of the coast.

In the month of November, 1823, I procured a fine living specimen of the Duck Hawk, which I preserved, with the view of noting its

change of plumage. It was a female, and was allowed the free range of a stable and garden. Notwithstanding my care, it lived but nine months. On dissection, I found her eggs very small, although she had every appearance of being an adult. Around the base of the heart, and near the ovaries, I discovered two or three round worms, of about nine inches in length.

During the time that she was in my possession she did not moult; and the change in the color of the plumage was but slight. In winter, the upper parts were dark brown, but in the summer there was an appearance of ash color on the back and wing-coverts. The fact, that the plumage of birds undergoes a change of color, independent of moulting, appears to be now well ascertained; and it is with pleasure that I can add my testimony, on this subject, to the sensible "Remarks on the Changes of the Plumage of Birds," which were published in the twelfth volume of the Transactions of the Linnean Society of London. The paper in question was written by the Rev. William Whitear.

My Duck Hawk never became sufficiently domesticated to permit me to handle her; and if an attempt were made to touch her, she would either hop away in anger, or, if prevented from retreating, she would spring upon me, and strike, furiously, with one of her powerful feet, which were capable of inflicting severe wounds. Unless when very hungry, she would not touch cooked food; she preferred fresh-killed meat, especially tender beef and mutton, generally rejecting the fat. She was fond of small birds, but a live duck was her supreme delight; the sight of one would make her almost frantic; at such times the vigor and activity of her movements, and the animation of her eye, were truly admirable. Her antipathy to cats was great, and when one of these animals approached her, she manifested her displeasure by raising her plumes, opening her mouth, and uttering some sounds, which were doubtless intended as a premonition of danger. If, regardless of all these, the cat got within striking distance, one blow from the Hawk was generally sufficient to compel the intruder to a hasty retreat.*

* From Mr. Ord's supplementary volume.

SPECIES II. *FALCO SPARVERIUS*.

AMERICAN SPARROW HAWK.

[Plate XVI.—Fig. 1.—Female.]

Emerillon de St. Domingue, BUFF. I. 291. *Pl. enl.* 465.—*Arct. Zool.* 212.—*Little Falcon*, LATH. *Syn.* v. I., p. 110, No. 94. *Ib.* 95.

IN no department of ornithology has there been greater confusion, or more mistakes made, than among this class of birds of prey. The great difference of size between the male and female, the progressive variation of plumage to which, for several years, they are subject, and the difficulty of procuring a sufficient number of specimens for examination; all these causes conspire to lead the naturalist into almost unavoidable mistakes. For these reasons, and in order, if possible, to ascertain each species of this genus distinctly, I have determined, where any doubt or ambiguity prevails, to represent both male and female, as fair and perfect specimens of each may come into my possession. According to fashionable etiquette the honor of precedence, in the present instance, is given to the *female* of this species; both because she is the most courageous, the largest and handsomest of the two, best ascertained, and less subject to change of color than the male, who will require some further examination and more observation, before we can venture to introduce him.

This bird is a constant resident in almost every part of the United States, particularly in the states north of Maryland. In the southern states there is a small species found, which is destitute of the black spots on the head; the legs are long and very slender, and the wings light blue. This has been supposed, by some, to be the male of the present species; but this is an error. The eye of the present species is dusky; that of the smaller species a brilliant orange; the former has the tail *rounded* at the end, the latter slightly *forked*. Such essential differences never take place between two individuals of the same species. It ought, however, to be remarked, that in all figures and descriptions I have hitherto met with of the bird now before us, the iris is represented of a bright golden color; but in all the specimens I have shot I uniformly found the eye very dark, almost black, resembling a globe of black glass. No doubt the golden color of the iris would give the figure of the bird a more striking appearance; but in works of natural history to sacrifice truth to mere picturesque effect is detestable; though, I fear, but too often put in practice.

The nest of this species is usually built in a hollow tree; generally

pretty high up, where the top or a large limb has been broken off. I have never seen its eggs; but have been told that the female generally lays four or five, which are of a light brownish yellow color, spotted with a darker tint; the young are fed on grasshoppers, mice, and small birds, the usual food of the parents.

The habits and manners of this bird are well known. It flies rather irregularly, occasionally suspending itself in the air, hovering over a particular spot for a minute or two, and then shooting off in another direction. It perches on the top of a dead tree, or pole in the middle of a field or meadow, and as it alights shuts its long wings so suddenly that they seem instantly to disappear; it sits here in an almost perpendicular position, sometimes for an hour at a time, frequently jerking its tail, and reconnoitering the ground below, in every direction, for mice, lizards, &c. It approaches the farm-house, particularly in the morning, skulking about the barn-yard for mice or young chickens. It frequently plunges into a thicket after small birds, as if by random; but always with a particular, and generally a fatal, aim. One day I observed a bird of this species perched on the highest top of a large poplar, on the skirts of the wood; and was in the act of raising the gun to my eye when he swept down with the rapidity of an arrow into a thicket of briars about thirty yards off; where I shot him dead; and on coming up found the small field sparrow (fig. 2,) quivering in his grasp. Both our aims had been taken in the same instant, and, unfortunately for him, both were fatal. It is particularly fond of watching along hedge rows, and in orchards, where those small birds, represented in the same plate, usually resort. When grasshoppers are plenty they form a considerable part of its food.

Though small snakes, mice, lizards, &c., be favorite morsels with this active bird; yet we are not to suppose it altogether destitute of delicacy in feeding. It will seldom or never eat of anything that it has not itself killed, and even that, if not (as epicures would term it) *in good eating order*, is sometimes rejected. A very respectable friend, through the medium of Mr. Bartram, informs me, that one morning he observed one of these hawks dart down on the ground, and seize a mouse, which he carried to a fence post; where, after examining it for some time, he left it; and, a little while after, pounced upon another mouse, which he instantly carried off to his nest, in the hollow of a tree hard by. The gentleman, anxious to know why the hawk had rejected the first mouse, went up to it, and found it to be almost covered with lice, and greatly emaciated! Here was not only delicacy of taste, but sound and prudent reasoning. "If I carry this to my nest," thought he, "it will fill it with vermin, and hardly be worth eating."

The Blue Jays have a particular antipathy to this bird, and frequently insult it by following and imitating its notes so exactly as to deceive

even those well acquainted with both. In return for all this abuse the hawk contents himself with, now and then, feasting on the plumpest of his persecutors; who are therefore in perpetual dread of him; and yet, through some strange infatuation, or from fear that if they lose sight of him he may attack them unawares, the Sparrow Hawk no sooner appears than the alarm is given, and the whole posse of Jays follow.

The female of this species, which is here faithfully represented from a very beautiful living specimen, furnished by a particular friend, is eleven inches long, and twenty-three from tip to tip of the expanded wings. The cere and legs are yellow; bill blue, tipped with black; space round the eye greenish blue; iris deep dusky; head bluish ash; crown rufous; seven spots of black, on a white ground, surround the head in the manner represented in the figure; whole upper parts reddish bay, transversely streaked with black; primary and secondary quills black, spotted on their inner vanes with brownish white; whole lower parts yellowish white, marked with longitudinal streaks of brown, except the chin, vent and femoral feathers, which are white; claws black.

FALCO SPARVERIUS.

AMERICAN SPARROW HAWK.

[Plate XXXII. Fig. 2—Male.]

Little Hawk, Arct. Zool. 211, No. 110.—*Emerillon de Cayenne, BUFF. I.*, 291, pl. enl.
No. 444.—*LATH. I.*, 110.*

As the male and the female of this species differ considerably in the markings of their plumage, the male is introduced, drawn to one-half its natural size, to conform with the rest of the figures on the plate.

The male Sparrow Hawk measures about ten inches in length, and twenty-one in extent; the whole upper parts of the head are of a fine slate blue, the shafts of the plumage being black, the crown excepted, which is marked with a spot of bright rufous; the slate tapers to a point on each side of the neck; seven black spots surround the head, as in the female, on a reddish white ground, which also borders each sloping side of the blue; front, lores, line over and under the eye, chin and throat, white; femoral and vent feathers yellowish white; the rest of the lower

* We add the following synonymes:—*Fulco sparverius*. LINN. *Syst.* ed. 10, p. 90.
—GMEL. *Syst.* I., p. 284.—*Ind. Orn.* p. 42 — *F. Dominicensis*, GMEL. *Syst.* I., p. 285.
—*Little Hawk*, CATESBY, I., p. 5.—*L'Emerillon de la Caroline*, BRISS. *Orn.* I., p. 386.
L'Emerillon de St. Domingue, Id. p. 389.—*Tinnunculus sparverius*, VIEIL. *Ois. de l'Am. Sept.* p. 12–13.

parts of the same tint, each feather being streaked down the centre with a long black drop, those on the breast slender, on the sides larger; upper part of the back and scapulars deep reddish bay, marked with ten or twelve transverse waves of black; whole wing-coverts, and ends of the secondaries, bright slate, spotted with black; primaries and upper half of the secondaries black, tipped with white, and spotted on their inner vanes with the same; lower part of the back, the rump and tail-coverts, plain bright bay; tail rounded, the two exterior feathers white, their inner vanes beautifully spotted with black; the next bright bay, with a broad band of black near its end, and tipped for half an inch with yellowish white, part of its lower exterior edge white, spotted with black, and its opposite interior edge touched with white; the whole of the others are very deep red bay, with a single broad band of black near the end, and tipped with yellowish white; cere and legs yellow, orbits the same, bill light blue; iris of the eye dark, almost black, claws blue black.

The character of this corresponds with that of the female, given at large in the preceding article. I have reason, however, to believe, that these birds vary considerably in the color and markings of their plumage during the first and second years; having met with specimens every way corresponding with the above, except in the breast, which was a plain rufous white, without spots; the markings on the tail also differing a little in different specimens. These I uniformly found on dissection to be males; from the stomach of one of which I took a considerable part of the carcass of a robin (*Turdus migratorius*), including the unbroken feet and claws; though the robin actually measures within half an inch as long as the Sparrow Hawk.

Note.—This species is very common among the cotton plantations of Georgia and East Florida. From the island of Cuba we received a living specimen, which differed in no respect from the same species in the United States.

SPECIES III. *FALCO COLUMBARIUS*.

PIGEON HAWK.

[Plate XV. Fig. 3.—Male.]

LINN. *Syst.* ed. 10, p. 90, No. 19.—LATH. *Syn.* v. I., p. 101, No. 86.—*L'Epervier de la Caroline*, BRISS. *Orn.* I., p. 378.—CATESB. I., p. 3. t. 3.—BARTRAM, p. 290.—GMEL. *Syst.* v. I., p. 281.

THIS small Hawk possesses great spirit and rapidity of flight. He is generally migratory in the middle and northern states, arriving in Pennsylvania early in spring, and extending his migrations as far north as Hudson's Bay. After building and rearing his young, he retires to the south early in November. Small birds and mice are his principal food. When the Reed-birds, Grakles, and Red-winged Blackbirds, congregate in large flights, he is often observed hovering in their rear, or on their flanks, picking up the weak, the wounded or stragglers; and frequently making a sudden and fatal sweep into the very midst of their multitudes. The flocks of robins and pigeons are honored with the same attentions from this marauder; whose daily excursions are entirely regulated by the movements of the great body, on whose unfortunate members he fattens. The individual from which the drawing in the plate was taken, was shot in the meadows below Philadelphia, in the month of August. He was carrying off a blackbird (*Oriolus phæniceus*) from the flock, and though mortally wounded and dying, held his prey fast till his last expiring breath; having struck his claws into its very heart. This was found to be a male. Sometimes when shot at, and not hurt, he will fly in circles over the sportsman's head, shrieking out with great violence, as if highly irritated. He frequently flies low, skimming a little above the field. I have never seen his nest.

The Pigeon Hawk is eleven inches long, and twenty-three broad; the whole upper parts are of a deep dark brown, except the tail, which is crossed with bars of white; the inner vanes of the quill feathers are marked with round spots of reddish brown; the bill is short, strongly toothed, of a light blue color, and tipped with black; the skin surrounding the eye greenish; cere the same; temples, and line over the eye, light brown; the lower parts brownish white, streaked laterally with dark brown; legs yellow, claws black. The female is an inch and a half longer, of a still deeper color, though marked nearly in the same manner, with the exception of some white on the hindhead. The femorals, or thigh feathers, in both, are of a remarkable length, reaching

nearly to the feet, and are also streaked longitudinally with dark brown. The irides of the eyes of this bird have been hitherto described as being of a brilliant yellow; but every specimen I have yet met with had the iris of a deep hazel. I must therefore follow nature, in opposition to very numerous and respectable authorities.

I cannot, in imitation of European naturalists, embellish the history of this species with anecdotes of its exploits in falconry. This science, if it may be so called, is among the few that have never yet travelled across the Atlantic; neither does it appear that the idea of training our hawks or eagles to the chase ever suggested itself to any of the Indian nations of North America. The Tartars, however, from whom, according to certain writers, many of these nations originated, have long excelled in the practice of this sport; which is indeed better suited to an open country than to one covered with forest. Though once so honorable and so universal, it is now much disused in Europe, and in Britain is nearly extinct. Yet I cannot but consider it as a much more noble and princely amusement than horse-racing and cock-fighting, cultivated in certain states with so much care; or even than pugilism, which is still so highly patronized in some of those enlightened countries.

SPECIES IV. *FALCO LEUCOCEPHALUS*.

WHITE-HEADED, OR BALD EAGLE.*

[Plate XXXVI. Female.]

LINN. *Syst.* 124.—LATH. I., 29.—*Le pygargue à tête blanche*, BUFF. I., 99, pl. enl. 411.—*Arct. Zool.* 196, No. 89.—*Bald Eagle*, CATESB. I., 1.†

THIS distinguished bird, as he is the most beautiful of his tribe in this part of the world, and the adopted *emblem* of our country, is entitled to particular notice. He is represented, in the plate, of one-third his natural size, and was drawn from one of the largest and most perfect specimens I have yet met with. In the back ground is seen a distant view of the celebrated cataract of Niagara, a noted place of resort for these birds, as well on account of the fish procured there, as for the

* The epithet *bald*, applied to this species, whose head is thickly covered with feathers, is equally improper and absurd with the titles Goatsucker, Kingfisher, &c., bestowed on others; and seems to have been occasioned by the white appearance of the head, when contrasted with the dark color of the rest of the plumage. The appellation, however, being now almost universal, is retained in the following pages.

† We add the following synonyms.—*Falco Leucocephalus*, GMEL. *Syst.* I., p. 255.—LATH. *Ind. Orn.* p. 11.—*Aigle à tête blanche*, TEMM. *Man. d' Orn.* p. 52.—*L' Aigle pygargue*, VIEILLOT, *Ois. de l' Am. Sept.* I., p. 27, pl. 3.

numerous carcasses of squirrels, deer, bear, and various other animals, that, in their attempts to cross the river, above the falls, have been dragged into the current, and precipitated down that tremendous gulf; where among the rocks that bound the rapids below, they furnish a rich repast for the Vulture, the Raven, and the Bald Eagle, the subject of the present account.

This bird has been long known to naturalists, being common to both continents; and occasionally met with from a very high northern latitude, to the borders of the torrid zone, but chiefly in the vicinity of the sea, and along the shores and cliffs of our lakes and large rivers. Formed by nature for braving the severest cold; feeding equally on the produce of the sea, and of the land; possessing powers of flight, capable of outstripping even the tempests themselves; unawed by anything but man, and, from the ethereal heights to which he soars, looking abroad at one glance, on an immeasurable expanse of forests, fields, lakes and ocean, deep below him; he appears indifferent to the little localities of change of seasons; as in a few minutes he can pass from summer to winter, from the lower to the higher regions of the atmosphere, the abode of eternal cold; and thence descend at will to the torrid or the arctic regions of the earth. He is therefore found at all seasons in the countries he inhabits; but prefers such places as have been mentioned above, from the great partiality he has for fish.

In procuring these he displays, in a very singular manner, the genius and energy of his character, which is fierce, contemplative, daring and tyrannical; attributes not exerted but on particular occasions; but when put forth, overpowering all opposition. Elevated on a high dead limb of some gigantic tree, that commands a wide view of the neighboring shore and ocean, he seems calmly to contemplate the motions of the various feathered tribes that pursue their busy avocations below: the snow-white Gulls, slowly winnowing the air; the busy Tringæ, coursing along the sands; trains of Ducks, streaming over the surface; silent and watchful Cranes, intent and wading; clamorous Crows, and all the winged multitudes that subsist by the bounty of this vast liquid magazine of nature. High over all these hovers one, whose action instantly arrests all his attention. By his wide curvature of wing, and sudden suspension in air, he knows him to be the *Fish-Hawk* settling over some devoted victim of the deep. His eye kindles at the sight, and balancing himself, with half-opened wings, on the branch, he watches the result. Down, rapid as an arrow from heaven, descends the distant object of his attention, the roar of its wings reaching the ear as it disappears in the deep, making the surges foam around! At this moment the eager looks of the Eagle are all ardor; and levelling his neck for flight, he sees the Fish-Hawk once more emerge, struggling with his prey, and mounting in the air with screams of exultation. These are

the signal for our hero, who, launching into the air, instantly gives chase, soon gains on the Fish-Hawk, each exerts his utmost to mount above the other, displaying in these rencounters the most elegant and sublime aerial evolutions. The unencumbered Eagle rapidly advances, and is just on the point of reaching his opponent, when, with a sudden scream, probably of despair and honest execration, the latter drops his fish; the Eagle poising himself for a moment, as if to take a more certain aim, descends like a whirlwind, snatches it in his grasp ere it reaches the water, and bears his ill-gotten booty silently away to the woods.

These predatory attacks, and defensive manœuvres, of the Eagle and the Fish-Hawk, are matters of daily observation along the whole of our seacoast, from Florida to New England; and frequently excite great interest in the spectators. Sympathy, however, on this, as on most other occasions, generally sides with the honest and laborious sufferer, in opposition to the attacks of power, injustice and rapacity; qualities for which our hero is so generally notorious, and which, in his superior *man*, are certainly detestable. As for the feelings of the poor fish, they seem altogether out of the question.

When driven, as he sometimes is, by the combined courage and perseverance of the Fish-Hawks from their neighborhood, and forced to hunt for himself, he retires more inland, in search of young pigs, of which he destroys great numbers. In the lower parts of Virginia and North Carolina, where the inhabitants raise vast herds of those animals, complaints of this kind are very general against him. He also destroys young lambs in the early part of spring; and will sometimes attack old sickly sheep, aiming furiously at their eyes.

In corroboration of the remarks I have myself made on the manners of the Bald Eagle, many accounts have reached me from various persons of respectability, living on or near our seacoast; the substance of all these I shall endeavor to incorporate with the present account.

Mr. John L. Gardiner, who resides on an island of three thousand acres, about three miles from the eastern point of Long Island, from which it is separated by Gardiner's Bay, and who has consequently many opportunities of observing the habits of these birds, has favored me with a number of interesting particulars on this subject; for which I beg leave thus publicly to return my grateful acknowledgment.

"The Bald Eagles," says this gentleman, "remain on this island during the whole winter. They can be most easily discovered on evenings by their loud snoring while asleep, on high oak trees; and when awake, their hearing seems to be nearly as good as their sight. I think I mentioned to you that I had myself seen one flying with a lamb ten days old, and which it dropped on the ground, from about ten or twelve feet high. The struggling of the lamb, more than its weight, prevented

its carrying it away. My running, hallooing, and being very near, might prevent its completing its design. It had broke the back in the act of seizing it; and I was under the necessity of killing it outright to prevent its misery. The lamb's dam seemed astonished to see its innocent offspring borne off into the air by a bird.

"I was lately told," continues Mr. Gardiner, "by a man of truth, that he saw an Eagle rob a Hawk of its fish, and the Hawk seemed so enraged as to fly down at the Eagle, while the Eagle very deliberately, in the air, threw himself partly over on his back, and while he grasped with one foot the fish, extended the other to threaten or seize the Hawk. I have known several Hawks unite to attack the Eagle; but never knew a single one to do it. The Eagle seems to regard the Hawks as the Hawks do the King-birds, only as teasing, troublesome fellows."

From the same intelligent and obliging friend, I lately received a well preserved skin of the Bald Eagle, which, from its appearance, and the note that accompanied it, seems to have belonged to a very formidable individual. "It was shot," says Mr. Gardiner, "last winter, on this island, and weighed thirteen pounds, measured three feet in length, and seven from tip to tip of the expanded wings; was extremely fierce-looking; though wounded, would turn his back to no one; fastened his claws into the head of a dog, and was with difficulty disengaged. I have rode on horseback within five or six rods of one, who, by his bold demeanor, raising his feathers, &c., seemed willing to dispute the ground with its owner. The crop of the present was full of mutton from my part-blood merinos; and his intestines contained feathers, which he probably devoured with a duck, or winter gull, as I observed an entire foot and leg of some water fowl. I had two killed previous to this which weighed ten pounds avoirdupois each."

The intrepidity of character, mentioned above, may be farther illustrated by the following fact, which occurred a few years ago, near Great Egg Harbor, New Jersey. A woman who happened to be weeding in the garden, had set her child down near, to amuse itself while she was at work; when a sudden and extraordinary rushing sound, and a scream from her child alarmed her, and starting up, she beheld the infant thrown down and dragged some few feet, and a large Bald Eagle bearing off a fragment of its frock, which being the only part seized, and giving way, providentially saved the life of the infant.

The appetite of the Bald Eagle, though habituated to long fasting, is of the most voracious, and often the most indelicate kind. Fish, when he can obtain them, are preferred to all other fare. Young lambs and pigs are dainty morsels, and made free with on all favorable occasions. Ducks, geese, gulls, and other sea-fowl, are also seized with avidity. The most putrid carrion, when nothing better can be had, is acceptable; and the collected groups of gormandizing Vultures, on the approach of this

dignified personage, instantly disperse, and make way for their master, waiting his departure in sullen silence, and at a respectful distance, on the adjacent trees.

In one of those partial migrations of tree squirrels, that sometimes take place in our western forests, many thousands of them were drowned in attempting to cross the Ohio; and at a certain place, not far from Wheeling, a prodigious number of their dead bodies were floated to the shore by an eddy. Here the Vultures assembled in great force, and had regaled themselves for some time, when a Bald Eagle made his appearance, and took sole possession of the premises, keeping the whole Vultures at their proper distance, for several days. He has also been seen navigating the same river on a floating carrion, though scarcely raised above the surface of the water, and tugging at the carcass, regardless of snags, sawyers, planters or shallows. He sometimes carries his tyranny to great extremes against the Vultures. In hard times, when food happens to be scarce, should he accidentally meet with one of these who has its craw crammed with carrion, he attacks it fiercely in air; the cowardly Vulture instantly *disgorges*, and the delicious contents are snatched up by the Eagle before they reach the ground.

The nest of this species is generally fixed on a very large and lofty tree, often in a swamp, or morass, and difficult to be ascended. On some noted tree of this description, often a pine or cypress, the Bald Eagle builds, year after year, for a long series of years. When both male and female have been shot from the nest, another pair has soon after taken possession. The nest is large, being added to, and repaired, every season, until it becomes a black prominent mass, observable at a considerable distance. It is formed of large sticks, sods, earthy rubbish, hay, moss, &c. Many have stated to me that the female lays first a single egg, and that after having sat on it for some time, she lays another; when the first is hatched, the warmth of that, it is pretended, hatches the other. Whether this be correct or not I cannot determine; but a very respectable gentleman of Virginia assured me, that he saw a large tree cut down, containing the nest of a Bald Eagle, in which were two young, one of which appeared nearly three times as large as the other. As a proof of their attachment to their young, a person near Norfolk informed me, that, in clearing a piece of woods on his place, they met with a large dead pine tree, on which was a Bald Eagle's nest and young. The tree being on fire more than half way up, and the flames rapidly ascending, the parent Eagle darted around and among the flames, until her plumage was so much injured that it was with difficulty she could make her escape, and even then, she several times attempted to return to relieve her offspring.

No bird provides more abundantly for its young than the Bald Eagle. Fish are daily carried thither in numbers, so that they sometimes lie

scattered round the tree, and the putrid smell of the nest may be distinguished at the distance of several hundred yards. The young are at first covered with a thick, whitish, or cream-colored cottony down; they gradually become of a gray color, as their plumage develops itself, continue of the brown gray until the third year, when the white begins to make its appearance on the head, neck, tail-coverts and tail; these, by the end of the fourth year, are completely white, or very slightly tinged with cream; the eye also is at first hazel, but gradually brightens into a brilliant straw color, with the white plumage of the head. Such at least was the gradual progress of this change, witnessed by myself, on a very fine specimen, brought up by a gentleman, a friend of mine, who for a considerable time believed it to be what is usually called the Gray Eagle, and was much surprised at the gradual metamorphosis. This will account for the circumstance, so frequently observed, of the Gray and White-headed Eagle being seen together; both being in fact the same species, in different stages of color, according to their difference of age.

The flight of the Bald Eagle, when taken into consideration with the ardor and energy of his character, is noble and interesting. Sometimes the human eye can just discern him, like a minute speck, moving in slow curvatures along the face of the heavens, as if reconnoitring the earth at that immense distance. Sometimes he glides along in a direct horizontal line, at a vast height, with expanded and unmoving wings, till he gradually disappears in the distant blue ether. Seen gliding in easy circles over the high shores, and mountainous cliffs, that tower above the Hudson and Susquehanna, he attracts the eye of the intelligent voyager, and adds great interest to the scenery. At the great cataract of Niagara, already mentioned, there rises from the gulf, into which the fall of the Horse-shoe descends, a stupendous column of smoke, or spray, reaching to the heavens, and moving off in large black clouds, according to the direction of the wind, forming a very striking and majestic appearance. The Eagles are here seen sailing about, sometimes losing themselves in this thick column, and again reappearing in another place, with such ease and elegance of motion, as renders the whole truly sublime.

High o'er the watery uproar, silent seen,
Sailing sedate, in majesty serene,
Now midst the pillared spray sublimely lost,
And now, emerging, down the rapids tossed,
Glides the Bald Eagle, gazing, calm and slow
O'er all the horrors of the scene below;
Intent alone to sate himself with blood,
From the torn victims of the raging flood.

The White-headed Eagle is three feet long, and seven feet in extent; the bill is of a rich yellow; cere the same, slightly tinged with green;

mouth flesh colored, tip of the tongue bluish black; the head, chief part of the neck, vent, tail-coverts and tail, are white in the perfect or old birds of both sexes, in those under three years of age these parts are of a gray brown; the rest of the plumage is deep dark brown, each feather tipped with pale brown, lightest on the shoulder of the wing, and darkest towards its extremities; the conformation of the wing is admirably adapted for the support of so large a bird; it measures two feet in breadth on the greater quills, and sixteen inches on the lesser; the longest primaries are twenty inches in length, and upwards of one inch in circumference where they enter the skin; the broadest secondaries are three inches in breadth across the vane; the scapulars are very large and broad, spreading from the back to the wing, to prevent the air from passing through; another range of broad flat feathers, from three to ten inches in length, also extends from the lower part of the breast to the wing below, for the same purpose; between these lies a deep triangular cavity; the thighs are remarkably thick, strong, and muscular, covered with long feathers pointing backwards, usually called the femoral feathers; the legs, which are covered half way below the knee, before, with dark brown downy feathers, are of a rich yellow, the color of ripe Indian corn; feet the same; claws blue black, very large and strong, particularly the inner one, which is considerably the largest, soles very rough and warty; the eye is sunk under a bony or cartilaginous projection, of a pale yellow color, and is turned considerably forwards, not standing parallel with the cheeks, the iris is of a bright straw color, pupil black.

The male is generally two or three inches shorter than the female; the white on the head, neck and tail, being more tinged with yellowish, and its whole appearance less formidable; the brown plumage is also lighter, and the bird itself less daring than the female, a circumstance common to almost all birds of prey.

The bird from which the foregoing drawing and description were taken, was shot near Great Egg Harbor, in the month of January last, was in excellent order, and weighed about eleven pounds. Dr. Samuel B. Smith, of this city, obliged me with a minute and careful dissection of it; from whose copious and very interesting notes on the subject, I shall extract such remarks as are suited to the general reader.

"The Eagle you sent me for dissection was a beautiful female. It had two expansions of the gullet. The first principally composed of longitudinal bundles of fibre, in which (as the bird is ravenous and without teeth) large portions of unmasticated meats are suffered to dissolve before they pass to the lower or proper stomach, which is membranous. I did not receive the bird time enough to ascertain whether any chyli-fication was effected by the juices from the vessels of this enlargement of the œsophagus. I think it probable that it also has a regurgitating or

vomiting power, as the bird constantly swallows large quantities of indigestible substances, such as quills, hairs, &c. In this sac of the Eagle I found the quill feathers of the small white gull; and in the true stomach, the tail and some of the breast feathers of the same bird; and the dorsal vertebræ of a large fish. This excited some surprise, until you made me acquainted with the fact of its watching the Fish-hawks, and robbing them of their prey. Thus we see, throughout the whole empire of animal life, power is almost always in a state of hostility to justice, and of the Deity only can it truly be said, that *justice* is commensurate with *power*!

“The Eagle has the several auxiliaries to digestion and assimilation in common with man. The liver was unusually large in your specimen. It secretes bile, which stimulates the intestines, prepares the chyle for blood, and by this very secretion of bile (as it is a deeply respiring animal), separates or removes some obnoxious principles from the blood. (See Dr. Rush’s admirable lecture on this important viscus in the human subject.) The intestines were also large, long, convolute, and supplied with numerous lacteal vessels, which differ little from those of men, except in color, which was transparent. The kidneys were large, and seated on each side the vertebræ, near the anus. They are also destined to secrete some offensive principles from the blood.

“The eggs were small and numerous; and after a careful examination, I concluded that no sensible increase takes place in them till the *particular* season. This may account for the unusual excitement which prevails in these birds in the sexual intercourse. Why there are so many eggs is a mystery. It is perhaps consistent with natural law, that everything should be abundant; but from this bird, it is said, no more than two young are hatched in a season, consequently no more eggs are wanted than a sufficiency to produce that effect. Are the eggs numbered originally, and is there no increase of number, but a gradual loss, till all are deposited? If so, the number may correspond to the long life and vigorous health of this noble bird. Why there is but two young in a season, is easily explained. Nature has been studiously parsimonious of her physical strength, from whence the tribes of animals incapable to resist, derive security and confidence.”

The Eagle is said to live to a great age, sixty, eighty, and as some assert, one hundred years. This circumstance is remarkable, when we consider the seeming intemperate habits of the bird. Sometimes fasting through necessity, for several days, and at other times gorging itself with animal food, till its craw swells out the plumage of that part, forming a large protuberance on the breast. This, however, is its natural food, and for these habits its whole organization is particularly adapted. It has not, like men, invented rich wines, ardent spirits, and a thousand artificial poisons, in the form of soups, sauces, and sweetmeats. Its food

is simple, it indulges freely, uses great exercise, breathes the purest air, is healthy, vigorous and long-lived. The lords of the creation themselves might derive some useful hints from these facts, were they not already, in general, too wise, or too proud, to learn from their *inferiors*, the fowls of the air and beasts of the field.

*FALCO OSSIFRAGUS.**

SEA EAGLE.

[Plate LV. Fig. 2.]

Sea Eagle, Arct. Zool. p. 194, No. 86, A.

THIS eagle inhabits the same countries, frequents the same situations, and lives on the same kind of food, as the Bald Eagle, with whom it is often seen in company. It resembles this last so much in figure, size, form of the bill, legs and claws, and is so often seen associating with it, both along the Atlantic coast, and in the vicinity of our lakes and large rivers, that I have strong suspicions, notwithstanding ancient and very respectable authorities to the contrary, of its being the same species, only in a different stage of color.

That several years elapse before the young of the Bald Eagle receive the white head, neck and tail; and that during the intermediate period their plumage strongly resembles that of the Sea Eagle, I am satisfied from my own observation on three several birds kept by persons of this city. One of these belonging to the late Mr. Enslen, collector of natural subjects for the Emperor of Austria, was confidently believed by him to be the Black, or Sea Eagle, until the fourth year, when the plumage on the head, tail and tail-coverts, began gradually to become white; the bill also exchanged its dusky hue for that of yellow; and before its death, this bird, which I frequently examined, assumed the perfect dress of the full-plumaged Bald Eagle. Another circumstance corroborating these suspicions, is the variety that occurs in the colors of the Sea Eagle. Scarcely two of these are found to be alike, their plumage being more or less diluted with white. In some, the chin, breast and tail-coverts, are of a deep brown; in others nearly white; and in all evidently unfixed, and varying to a pure white. Their place and manner of building, on high trees, in the neighborhood of lakes, large rivers, or the ocean, exactly similar to the Bald Eagle, also strengthens the belief. At the celebrated cataract of Niagara, great numbers of these birds,

* This is not a distinct species, but the young of the preceding, the *Falco leucocephalus*.

called there Gray Eagles, are continually seen sailing high and majestically over the watery tumult, in company with the Bald Eagles, eagerly watching for the mangled carcasses of those animals that have been hurried over the precipice, and cast up on the rocks below, by the violence of the rapids. These are some of the circumstances on which my suspicions of the identity of those two birds are founded. In some future part of the work, I hope to be able to speak with more certainty on this subject.

Were we disposed, after the manner of some, to substitute for plain matters of fact all the narratives, conjectures, and fanciful theories of travellers, voyagers, compilers, &c., relative to the history of the Eagle, the volumes of these writers, from Aristotle down to his admirer the Count de Buffon, would furnish abundant materials for this purpose. But the author of the present work feels no ambition to excite surprise and astonishment at the expense of truth, or to attempt to elevate and embellish his subject beyond the plain realities of nature. On this account, he cannot assent to the assertion, however eloquently made, in the celebrated parallel drawn by the French naturalist between the Lion and the Eagle, viz., that the Eagle, like the Lion, “disdains the possession of that property which is not the fruit of his own industry, and rejects with contempt the prey which is not procured by his own exertions;” since the very reverse of this is the case in the conduct of the Bald and the Sea Eagle, who, during the summer months, are the constant plunderers of the Osprey or Fish-Hawk, by whose industry alone both are usually fed. Nor that “*though famished for want of prey, he disdains to feed on carrion,*” since we have ourselves seen the Bald Eagle, while seated on the dead carcass of a horse, keep a whole flock of Vultures at a respectful distance, until he had fully sated his own appetite. The Count has also taken great pains to expose the ridiculous opinion of Pliny, who conceived that the Ospreys formed no separate race, and that they proceeded from the intermixture of different species of Eagles, the young of which were not Ospreys, only Sea Eagles; “*which Sea Eagles,*” says he, “*breed small Vultures, which engender great Vultures that have not the power of propagation.*”^{*} But, while laboring to confute these absurdities, the Count himself, in his belief of an occasional intercourse between the Osprey and the Sea Eagle, contradicts all actual observation, and one of the most common and fixed laws of nature; for it may be safely asserted, that there is no habit more universal among the feathered race, in their natural state, than that chastity of attachment, which confines the amours of individuals to those of their own species only. That perversion of nature produced by domestication is nothing to the purpose. In no instance

^{*} Hist. Nat. lib. x., c. 3.

have I ever observed the slightest appearance of a contrary conduct. Even in those birds which never build a nest for themselves, nor hatch their young, nor even pair, but live in a state of general concubinage: such as the Cuckoo of the old, and the Cow Bunting of the new continent; there is no instance of a deviation from this striking habit. I cannot therefore avoid considering the opinion above alluded to, that "the male Osprey by coupling with the female Sea Eagle produces Sea Eagles; and that the female Osprey by pairing with the male Sea Eagle gives birth to Ospreys"* or Fish-Hawks, as altogether unsupported by facts, and contradicted by the constant and universal habits of the whole feathered race in their state of nature.

The Sea Eagle is said by Salerne to build on the loftiest oaks a very broad nest, into which it drops two large eggs, that are quite round, exceedingly heavy, and of a dirty white color. Of the precise time of building we have no account, but something may be deduced from the following circumstance. In the month of May, while on a shooting excursion along the sea-coast, not far from Great Egg Harbor, accompanied by my friend Mr. Ord, we were conducted about a mile into the woods, to see an Eagle's nest. On approaching within a short distance of the place, the bird was perceived slowly retreating from the nest, which we found occupied the centre of the top of a very large yellow pine. The woods were cut down, and cleared off for several rods around the spot, which, from this circumstance, and the stately erect trunk, and large crooked wriggling branches of the tree, surmounted by a black mass of sticks and brush, had a very singular and picturesque effect. Our conductor had brought an axe with him to cut down the tree; but my companion, anxious to save the eggs, or young, insisted on ascending to the nest, which he fearlessly performed, while we stationed ourselves below, ready to defend him in case of an attack from the old Eagles. No opposition, however, was offered; and on reaching the nest, it was found, to our disappointment, empty. It was built of large sticks, some of them several feet in length; within which lay sods of earth, sedge, grass, dry reeds, &c., &c., piled to the height of five or six feet, by more than four in breadth; it was well lined with fresh pine tops, and had little or no concavity. Under this lining lay the recent exuvæ of the young of the present year, such as scales of the quill feathers, down, &c. Our guide had passed this place late in February, at which time both male and female were making a great noise about the nest; and from what we afterwards learnt, it is highly probable it contained young, even at that early time of the season.

A few miles from this is another Eagle's nest, built also on a pine tree, which, from the information received from the proprietor of the

* Buffon, vol. I., p. 80, Trans.

woods, had been long the residence of this family of Eagles. The tree on which the nest was originally built had been for time immemorial, or at least ever since he remembered, inhabited by these Eagles. Some of his sons cut down this tree to procure the young, which were two in number; and the Eagles soon after commenced building another nest on the very next adjoining tree, thus exhibiting a very particular attachment to the spot. The Eagles, he says, make it a kind of *home* and *lodging place* in all seasons. This man asserts, that the Gray, or Sea Eagles, are the young of the Bald Eagle, and that they are several years old before they begin to breed. It does not drive its young from the nest like the Osprey, or Fish-Hawk; but continues to feed them long after they leave it.

The bird from which the figure in the plate was drawn, and which is reduced to one-third the size of life, measured three feet in length, and upwards of seven feet in extent. The bill was formed exactly like that of the Bald Eagle, but of a dusky brown color; cere and legs bright yellow; the latter as in the Bald Eagle, feathered a little below the knee; irides a bright straw color; head above, neck and back streaked with light brown, deep brown and white, the plumage being white, tipped and centred with brown; scapulars brown; lesser wing-coverts very pale, intermixed with white; primaries black, their shafts brownish white; rump pale brownish white; tail rounded, somewhat longer than the wings when shut, brown on the exterior vanes, the inner ones white, sprinkled with dirty brown; throat, breast and belly, white, dashed and streaked with different tints of brown and pale yellow; vent brown, tipped with white; femorals dark brown, tipped with lighter; auriculars brown, forming a bar from below the eye backwards; plumage of the neck long, narrow and pointed, as is usual with the Eagles, and of a brownish color tipped with white.

The Sea Eagle is said by various authors to hunt at night as well as during the day; and that besides fish it feeds on chickens, birds, hares and other animals. It is also said to catch fish during the night; and that the noise of its plunging into the water is heard at a great distance. But in the descriptions of these writers this bird has been so frequently confounded with the Osprey, as to leave little doubt that the habits and manners of the one have been often attributed to both; and others added that are common to neither.

NOTE—In Wilson's history of the Bald Eagle, he confidently asserts that it is the same species as the Sea Eagle, in a different stage of color. In his account of the latter, he adduces additional reasons for his belief, which is at variance with the opinions of some of the most respectable naturalists of Europe. We have no hesitation, from our own experience, in pronouncing these birds to be the same; and deem it unnecessary to

add anything further on the subject, as the reasoning of Wilson is conclusive.

Our author describes an Eagle's nest, which he visited, in company with the writer of this article, on the eighteenth of May, 1812. It was then empty; but from every appearance a brood had been hatched and reared in it that season. The following year, on the first day of March, a friend of ours took from the same nest three eggs, the largest of which measured three inches and a quarter in length, two and a quarter in diameter, upwards of seven in circumference, and weighed four ounces five drams, apothecaries weight; the color a dirty yellowish white—one was of a very pale bluish white; the young were perfectly formed. Such was the solicitude of the female to preserve her eggs, that she did not abandon the nest, until several blows, with an axe, had been given the tree.

In the history of Lewis and Clark's Expedition, we find the following account of an Eagle's nest, which must have added not a little to the picturesque effect of the magnificent scenery at the Falls of the Missouri:

"Just below the upper pitch is a little island in the middle of the river, well covered with timber. Here on a cottonwood tree an Eagle had fixed its nest, and seemed the undisputed mistress of a spot, to contest whose dominion neither man nor beast would venture across the gulfs that surround it, and which is further secured by the mist rising from the falls."*

The Bald Eagle was observed, by Lewis and Clark, during their whole route to the Pacific Ocean.

It may gratify some of our readers to be informed, that the opinion of Temminck coincides with ours respecting the identity of our Bald and Sea Eagles; but he states that the *Falco ossifragus* of Gmelin, the Sea Eagle of Latham, is the young of the *Falco albicilla*, which in its first year so much resembles the yearling of the *leucocephalus*, that it is very difficult to distinguish them.—*Note by Mr. Ord.*

* Hist. of the Exped. vol. i., p. 264.

SPECIES V. *FALCO FULVUS*.

RING-TAIL EAGLE.

[Plate LV. Fig. 1, young bird.]

LINN. *Syst.* ed. 10, p. 88.—*Black Eagle*, *Arct. Zool.* p. 195, No. 87.—LATH. I., 32 No. 6.—*White-tailed Eagle*, EDW. I., 1.—*L'Aigle Commun*, BUFF. I., 86. *Pl Enl.* 409.—BEWICK, I., p. 49.

THE reader is now presented with a portrait of this celebrated Eagle, drawn from a fine specimen shot in the county of Montgomery, Pennsylvania. The figure here given, though reduced to one-third the size of life, is strongly characteristic of its original. With respect to the habits of the species, such particulars only shall be selected as are well authenticated, rejecting whatever seems vague, or savors too much of the marvellous.

This noble bird, in strength, spirit and activity, ranks among the first of its tribe. It is found, though sparingly dispersed, over the whole temperate and arctic regions, particularly the latter; breeding on high precipitous rocks; always preferring a mountainous country. In its general appearance it has great resemblance to the Golden Eagle, from which, however, it differs in being rather less; as also in the colors and markings of the tail; and, as it is said, in being less noisy. When young, the color of the body is considerably lighter, but deepens into a blackish brown as it advances in age.

The tail feathers of this bird are highly valued by the various tribes of American Indians, for ornamenting their calumets, or Pipes of Peace. Several of these pipes, which were brought from the remote regions of Louisiana by Captain Lewis, were deposited in Peale's Museum, each of which had a number of the tail feathers of this bird attached to it. The Northern as well as Southern Indians seem to follow the like practice, as appears by the numerous calumets, formerly belonging to different tribes.

Pennant informs us, that the independent Tartars train this Eagle for the chase of hares, foxes, wolves, antelopes, &c., and that they esteem the feathers of the tail the best for pluming their arrows. The Ring-tail Eagle is characterized by all as a generous-spirited and docile bird; and various extraordinary incidents are related of it by different writers, not, however, sufficiently authenticated to deserve repetition. The truth is, the solitary habits of the Eagle now before us, the vast inaccessible cliffs to which it usually retires, united with the scarcity of the species in those regions inhabited by man, all combine to render a

particular knowledge of its manners very difficult to be obtained. The author has, once or twice, observed this bird sailing along the alpine declivities of the White Mountains of New Hampshire, early in October, and again, over the Highlands of Hudson's river, not far from West Point. Its flight was easy, in high circuitous sweeps, its broad white tail, tipped with brown, expanded like a fan. Near the settlements on Hudson's Bay it is more common; and is said to prey on hares, and the various species of Grouse which abound there. Buffon observes, that though other Eagles also prey upon hares, this species is a more fatal enemy to those timid animals, which are the constant object of their search, and the prey which they prefer. The Latins, after Pliny, termed the Eagle *Valeria*, *quasi valens viribus*, because of its strength, which appears greater than that of the other Eagles in proportion to its size.

The Ring-tail Eagle measures nearly three feet in length; the bill is of a brownish horn color; the cere, sides of the mouth and feet yellow; iris of the eye reddish hazel, the eye turned considerably forwards; eyebrow remarkably prominent, projecting over the eye, and giving a peculiar sternness to the aspect of the bird; the crown is flat; the plumage of the head, throat and neck, long and pointed; that on the upper part of the head and neck very pale ferruginous; fore part of the crown black; all the pointed feathers are shafted with black; whole upper parts dark blackish brown; wings black; tail rounded, long, of a white or pale cream color minutely sprinkled with specks of ash and dusky, and ending in a broad band of deep dark brown, of nearly one-third its length; chin, cheeks and throat, black; whole lower parts a deep dark brown, except the vent and inside of the thighs, which are white, stained with brown; legs thickly covered to the feet with brownish white down or feathers; claws black, very large, sharp and formidable, the hind one full two inches long.

The Ring-tail Eagle is found in Russia, Switzerland, Germany, France, Scotland, and the northern parts of America. As Marco Polo, in his description of the customs of the Tartars, seems to allude to this species, it may be said to inhabit the whole circuit of the arctic regions of the globe. The Golden Eagle, on the contrary, is said to be found only in the more warm and temperate countries of the ancient continent.* Later discoveries, however, have ascertained it to be also an inhabitant of the United States.†

* Buffon, vol. i., p. 56, Trans.

† Naturalists being now of opinion that the Ring-tail Eagle and the Golden Eagle are the same, we add the following synonymes:—*Yellow-headed Eagle*, *Arct. Zool.* No. 86. *D.—Golden Eagle*, *LATH. Syn.* 1, 31, No. 5.—*Pl. Enl.* 410.—*Falco fulvus*, *Ind. Orn.* 1., No. 4; *F. chrysaëtos*, *Id.* No. 8; *F. melanonotus*, *Id.* No. 26; *F. melanæctus*, *Id.* No. 3.—*Aigle royal*, *TEMP. Man. d'Orn.* 1., p. 38.

SPECIES VI. *FALCO HALIÆTUS*.

FISH-HAWK, OR OSPREY.

[Plate XXXVII. Fig. 1.]

Carolina Osprey, LATH. *Syn.* I., p. 46, No. 26, A.—*Falco Piscator*, BRISS. I., p. 361, No. 14; 362, No. 15.—*Faucon pêcheur de la Caroline*, BUFF. I., p. 142.—*Fishing Hawk*, CATESB. *Car.* I., p. 2.—*Falco Carolinensis*, GMEL. *Syst.* I., p. 263, No. 26.*

THIS formidable, vigorous-winged, and well-known bird subsists altogether on the finny tribes that swarm in our bays, creeks, and rivers; procuring his prey by his own active skill and industry; and seeming no farther dependent on the land than as a mere resting-place, or in the usual season, a spot of deposit for his nest, eggs and young. The figure here given is reduced to one-third the size of life, to correspond with that of the Bald Eagle, his common attendant, and constant plunderer.

The Fish-Hawk is migratory; arriving on the coasts of New York and New Jersey about the twenty-first of March, and retiring to the south about the twenty-second of September. Heavy equinoctial storms may vary these periods of arrival and departure a few days; but long observation has ascertained, that they are kept with remarkable regularity. On the arrival of these birds in the northern parts of the United States, in March, they sometimes find the bays and ponds frozen, and experience a difficulty in procuring fish for many days. Yet there is no instance on record of their attacking birds, or inferior land animals, with intent to feed upon them; though their great strength of flight, as well as of feet and claws, would seem to render this no difficult matter. But they no sooner arrive, than they wage war on the Bald Eagles, as against a horde of robbers and banditti; sometimes succeeding, by force of numbers and perseverance, in driving them from their haunts; but seldom or never attacking them in single combat.

The first appearance of the Fish-Hawk in spring, is welcomed by the fishermen, as a happy signal of the approach of those vast shoals of herring, shad, &c. &c., that regularly arrive on our coasts, and enter our rivers in such prodigious multitudes. Two of a trade, it is said, seldom agree; the adage, however, will not hold good in the present case, for such is the respect paid the Fish-Hawk not only by this class

* The following synonymes may be added: *Le Balbuzard*, BUFF. *Pl. Enl.* 414. *Aquila piscatrix*, VIEILLOT, *Ois. de l'Am. Sept.* v. I., p. 29, pl. 4.

of men, but generally, by the whole neighborhood where it resides, that a person who should attempt to shoot one of them, would stand a fair chance of being insulted. This prepossession in favor of the Fish-Hawk is honorable to their feelings. They associate with its first appearance ideas of plenty, and all the gaiety of business; they see it active and industrious like themselves; inoffensive to the productions of their farms; building with confidence, and without the least disposition to concealment, in the middle of their fields, and along their fences; and returning year after year regularly to its former abode.

The nest of the Fish-Hawk is usually built on the top of a dead or decaying tree, sometimes not more than fifteen, often upwards of fifty feet, from the ground. It has been remarked by the people of the seacoasts, that the most thriving tree will die in a few years, after being taken possession of by the Fish-Hawk. This is attributed to the fish-oil, and to the excrements of the bird; but is more probably occasioned by the large heap of wet, salt materials, of which it is usually composed. In my late excursions to the seashore I ascended to several of these nests, that had been built in from year to year, and found them constructed as follows; externally large sticks, from half an inch to an inch and a half in diameter, and two or three feet in length, piled to the height of four or five feet, and from two to three feet in breadth; these were intermixed with corn-stalks, sea-weed, pieces of wet turf in large quantities, mullein-stalks, and lined with dry sea-grass; the whole forming a mass very observable at half a mile's distance, and large enough to fill a cart, and form no inconsiderable load for a horse. These materials are so well put together, as often to adhere in large fragments after being blown down by the wind. My learned and obliging correspondent of New York, Dr. Samuel L. Mitchill, observes, that "A sort of superstition is entertained in regard to the Fish-Hawk. It has been considered a fortunate incident to have a nest, and a pair of these birds, on one's farm. They have therefore been generally respected; and neither the axe nor the gun has been lifted against them. Their nest continues from year to year, The same couple, or another as the case may be, occupies it season after season. Repairs are duly made, or when demolished by storms it is industriously rebuilt. There was one of these nests, formerly upon the leafless summit of a venerable chestnut-tree, on our farm, directly in front of the house, at the distance of less than a half mile. The withered trunk and boughs, surmounted by the coarse wrought and capacious nest, was a more picturesque object than an obelisk. And the flights of the Hawks as they went forth to hunt—returned with their game—exercised themselves in wheeling round and round and circling about it, were amusing to the beholder almost from morning to night. The family of these Hawks, old and young, was killed by the Hessian *Jagers*. A succeeding

pair took possession of the nest; but in the course of time, the prongs of the trunk so rotted away, that the nest could no longer be supported. The Hawks have been obliged to seek new quarters. We have lost this part of our prospect; and our trees have not afforded a convenient site for one of their habitations since."

About the first of May the female Fish-Hawk begins to lay her eggs, which are commonly three in number, sometimes only two, and rarely four. They are somewhat larger than those of the common hen, and nearly of the same shape. The ground color varies, in different eggs, from a reddish cream, to nearly a white, splashed and daubed all over with dark Spanish brown, as if done by art.* During the time the female is sitting, the male frequently supplies her with fish; though she occasionally takes a short circuit to sea herself, but quickly returns again. The attention of the male, on such occasions, is regulated by the circumstances of the case. A pair of these birds, on the south side of Great Egg Harbor river, and near its mouth, were noted for several years. The female having but one leg was regularly furnished, while sitting, with fish in such abundance, that she seldom left the nest, and never to seek for food. This kindness was continued both before and after incubation. Some animals who claim the name and rationality of man might blush at the recital of this fact.

On the appearance of the young, which is usually about the last of June, the zeal and watchfulness of the parents are extreme. They stand guard, and go off to fish, alternately; one parent being always within a short distance of the nest. On the near approach of any person, the Hawk utters a plaintive whistling note, which becomes shriller as she takes to wing, and sails around, sometimes making a rapid descent, as if aiming directly for you; but checking her course and sweeping past at a short distance overhead, her wings making a loud whizzing in the air. My worthy friend Mr. Gardiner informs me, that they have been known to fix their claws in a negro's head, who was attempting to climb to their nest; and I had lately a proof of

* Of the palatableness of these eggs I cannot speak from personal experience; but the following incident will show that the experiment has actually been made. A country fellow, near Cape May, on his way to a neighboring tavern, passing a tree on which was a Fish-Hawk's nest, immediately mounted and robbed it of the only egg it contained, which he carried with him to the tavern, and desired the landlord to make it into *egg-nogg*. The tavern-keeper, after a few wry faces, complied with his request, and the fellow swallowed the cordial; but, whether from its effects on the olfactory nerves (for he said it smelt abominably) the imagination, or on the stomach alone, is uncertain, it operated as a most outrageous emetic, and cured the man, for that time at least, of his thirst for *egg-nogg*. What is rather extraordinary, the landlord (Mr. Beasley) assured me, that to all appearance the egg was perfectly fresh.

their daring spirit in this way, though the kindness of a friend, resident for a few weeks at Great Egg Harbor. I had requested of him the favor to transmit me, if possible, a live Fish-Hawk, for the purpose of making a drawing of it, which commission he very faithfully executed; and I think I cannot better illustrate this part of the bird's character than by quoting his letter at large.

“BEASLEY'S, Great Egg Harbor, June 30th, 1811.

“SIR,

“Mr. Beasley and I went to reconnoitre a Fish-Hawk's nest on Thursday afternoon. When I was at the nest I was struck with so great violence, on the crown of the hat, that I thought a hole was made in it. I had ascended fearlessly, and never dreamt of being attacked. I came down quickly. There were in the nest three young ones about the size of pullets, which, though full feathered, were unable to fly. On Friday morning I went again to the nest to get a young one, which I thought I could nurse to a considerable growth, sufficient to answer your purpose, if I could fail to procure an old one, which was represented to me as almost impossible, on account of his shyness, and the danger from his dreadful claws. On taking a young one I intended to lay a couple of snares in the nest, for which purpose I had a strong cord in my pocket. The old birds were on the tree when Captain H. and I approached it. As a defence, profiting by the experience of yesterday, I took a walking stick with me. When I was about half up the tree, the bird I send you struck at me repeatedly with violence; he flew round in a small circle, darting at me at every circuit, and I striking at him. Observing that he always described a circle in the air, before he came at me, I kept a *hawk's eye* upon him, and the moment he passed me, I availed myself of the opportunity to ascend. When immediately under the nest, I hesitated at the formidable opposition I met, as his rage appeared to increase with my presumption in invading his premises. But I mounted to the nest. At that moment he darted directly at me with all his force, whizzing through the air; his choler apparently redoubled. Fortunately for me, I struck him on the extreme joint of the right wing with my stick, which brought him to the ground. During this contest the female was flying round and round at a respectful distance. Captain H. held him till I tied my handkerchief about his legs; the captain felt the effect of his claws. I brought away a young one to keep the old one in a good humor. I put them in a very large coop; the young one ate some fish, when broken and put into its throat; but the old one would not eat for two days. He continued sullen and obstinate, hardly changing his position. He walks about now, and is approached without danger; he takes very little notice of the young one. A Joseph Smith, working in the field where this nest is, had the

curiosity to go up to look at the eggs; the bird clawed his face in a shocking manner; his eye had a narrow escape. I am told that it has never been considered dangerous to approach a Hawk's nest. If this be so, this bird's character is peculiar; his affection for his young, and his valiant opposition to an invasion of his nest, entitle him to conspicuous notice. He is the *Prince* of Fish-Hawks; his character and his portrait seem worthy of being handed to the historic muse. A Hawk more worthy of the honor which awaits him could not have been found. I hope no accident will happen to him, and that he may fully answer your purpose.

"Yours,

"THOMAS SMITH.

"This morning the female was flying to and fro, making a mournful noise."

The young of the Fish-Hawk are remarkable for remaining long in the nest before they attempt to fly. Mr. Smith's letter is dated June 30th, at which time, he observes, they were as large as pullets, and full feathered. Seventeen days after, I myself ascended to this same Hawk's nest, where I found the two remaining young ones seeming full grown. They made no attempts to fly, though they both placed themselves in a stern posture of defence, as I examined them at my leisure. The female had procured a *second* helpmate; but he did not seem to inherit the spirit of his predecessor, for like a true step-father, he left the nest at my approach, and sailed about at a safe distance with his mate, who showed great anxiety and distress during the whole of my visit. It is universally asserted by the people of the neighborhood where these birds breed, that the young remain so long before they fly, that the parents are obliged at last to compel them to shift for themselves, beating them with their wings, and driving them from the nest. But that they continue to assist them even after this, I know to be a fact from my own observation, as I have seen the young bird meet its parent in the air, and receive from him the fish he carried in his claws.

The flight of the Fish-Hawk, his manœuvres while in search of fish, and his manner of seizing his prey, are deserving of particular notice. In leaving the nest he usually flies direct till he comes to the sea, then sails around in easy curving lines, turning sometimes in the air as on a pivot, apparently without the least exertion, rarely moving the wings, his legs extended in a straight line behind, and his remarkable length and curvature or bend of wing, distinguishing him from all other Hawks. The height at which he thus elegantly glides is various, from one hundred to one hundred and fifty, and two hundred feet, sometimes much higher, all the while calmly reconnoitring the face of the deep below. Suddenly he is seen to check his course, as if struck by a particular object, which he seems to survey for a few moments with such steadiness

that he appears fixed in air, flapping his wings. The object however he abandons, or rather the fish he had in his eye has disappeared, and he is again seen sailing around as before. Now his attention is again arrested, and he descends with great rapidity; but ere he reaches the surface, shoots off on another course, as if ashamed that a second victim had escaped him. He now sails at a short height above the surface, and by a zig-zag descent and without seeming to dip his feet in the water, seizes a fish, which after carrying a short distance, he probably drops, or yields up to the Bald Eagle, and again ascends by easy spiral circles, to the higher regions of the air, where he glides about in all the ease and majesty of his species. At once from this sublime aerial height he descends like a perpendicular torrent, plunging into the sea with a loud rushing sound, and with the certainty of a rifle. In a few moments he emerges, bearing in his claws his struggling prey, which he always carries head foremost; and having risen a few feet above the surface, shakes himself as a water spaniel would do, and directs his heavy and laborious course directly for the land. If the wind blow hard, and his nest lie in the quarter from whence it comes, it is amusing to observe with what judgment and exertion he beats to windward, not in a direct line, that is, *in the wind's eye*, but making several successive tacks to gain his purpose. This will appear the more striking, when we consider the size of the fish which he sometimes bears along. A shad was taken from a Fish-Hawk, near Great Egg Harbor, on which he had begun to regale himself, and had already ate a considerable portion of it, the remainder weighed six pounds. Another Fish-Hawk was passing Mr. Beasley's, at the same place, with a large flounder in his grasp, which struggled and shook him so, that he dropped it on the shore. The flounder was picked up, and served the whole family for dinner. It is singular that the Hawk never descends to pick up a fish which he happens to drop, either on the land or on the water. There is a kind of abstemious dignity in this habit of the Hawk, superior to the gluttonous voracity displayed by most other birds of prey, particularly by the Bald Eagle, whose piratical robberies committed on the present species have been already fully detailed in treating of his history. The Hawk, however, in his fishing pursuits, sometimes mistakes his mark, or overrates his strength, by striking fish too large and powerful for him to manage, by whom he is suddenly dragged under; and though he sometimes succeeds in extricating himself, after being taken three or four times down, yet oftener both parties perish. The bodies of sturgeon, and several other large fish, with that of the Fish-Hawk fast grappled in them, have at different times been found dead on the shore, cast up by the waves.

The Fish-Hawk is doubtless the most numerous of all its genus within the United States. It penetrates far into the interior of the country

up our large rivers, and their head waters. It may be said to line the seacoast from Georgia to Canada. In some parts I have counted, at one view, more than twenty of their nests within half a mile. Mr. Gardiner informs me, that on the small island on which he resides, there are at least "three hundred nests of Fish-Hawks that have young, which, on an average, consume probably not less than six hundred fish daily." Before they depart in the autumn they regularly repair their nests, carrying up sticks, sods, &c., fortifying them against the violence of the winter storms, which, from this circumstance, they would seem to foresee and expect. But, notwithstanding all their precautions, they frequently, on their return in spring, find them lying in ruins around the roots of the tree; and sometimes the tree itself has shared the same fate. When a number of Hawks, to the amount of twenty or upwards, collect together on one tree, making a loud squealing noise, there is generally a nest built soon after on the same tree. Probably this congressional assembly were settling the right of the new pair to the premises; or it might be a kind of wedding, or joyous festive meeting on the occasion. They are naturally of a mild and peaceable disposition, living together in great peace and harmony; for though with them, as in the best regulated communities, instances of attack and robbery occur among themselves, yet these instances are extremely rare. Mr. Gardiner observes that they are sometimes seen high in the air, sailing and cutting strange gambols, with loud vociferations, darting down several hundred feet perpendicular, frequently with part of a fish in one claw, which they seem proud of, and to claim *high hook*, as the fishermen call *him* who takes the greatest number. On these occasions they serve as a barometer to foretell the changes of the atmosphere; for when the Fish-Hawks are seen thus, sailing high in air, in circles, it is universally believed to prognosticate a change of weather, often a thunder storm, in a few hours. On the faith of the certainty of these signs, the experienced coaster wisely prepares for the expected storm, and is rarely mistaken.

There is one singular trait in the character of this bird, which will be mentioned in treating of the Purple Grackle, and which I have had many opportunities of witnessing. The Grakles, or Crow Blackbirds, are permitted by the Fish-Hawk to build their nests among the interstices of the sticks of which his own is constructed. Several pair of Grakles taking up their abode there, like humble vassals around the castle of their chief, laying, hatching their young, and living together in mutual harmony. I have found no less than four of these nests clustered around the sides of the former, and a fifth fixed on the nearest branch of the adjoining tree; as if the proprietor of this last, unable to find an unoccupied corner on the premises, had been anxious to share as much as possible the company and protection of this generous bird.

The Fish-Hawk is twenty-two inches in length, and five feet three

inches in extent ; the bill is deep black, the upper as well as lower cere, (for the base of the lower mandible has a loose movable skin) and also the sides of the mouth, from the nostrils backwards, are light blue ; crown and hind-head pure white, front streaked with brown ; through the eye a bar of dark blackish brown passes to the neck behind, which, as well as the whole upper parts, is deep brown, the edges of the feathers lighter ; shafts of the wing quills brownish white ; tail slightly rounded, of rather a paler brown than the body, crossed with eight bars of very dark brown ; the wings when shut extend about an inch beyond the tail, and are nearly black towards the tips ; the inner vanes of both quill and tail feathers are whitish, barred with brown ; whole lower parts pure white, except the thighs, which are covered with short plumage, and streaked down the fore part with pale brown ; the legs and feet are a very pale light blue, prodigiously strong and disproportionately large, they are covered with flat scales of remarkable strength and thickness, resembling when dry the teeth of a large rasp, particularly on the soles, intended no doubt to enable the bird to seize with more security his slippery prey ; the thighs are long, the legs short, feathered a little below the knee, and as well as the feet and claws large ; the latter hooked into semicircles, black, and very sharp pointed ; the iris of the eye a fiery yellow orange.

The female is full two inches longer ; the upper part of the head of a less pure white, and the brown streaks on the front spreading more over the crown ; the throat and upper part of the breast are also dashed with large blotches of a pale brown, and the bar passing through the eye, not of so dark a brown. The toes of both are exceedingly strong and warty, and the hind claw a full inch and a quarter in diameter. The feathers on the neck and hind-head are long and narrow, and generally erected when the bird is irritated, resembling those of the Eagle. The eye is destitute of the projecting bone common to most of the Falcon tribe, the nostril large, and of a curving triangular shape. On dissection, the two glands on the rump, which supply the bird with oil for lubricating its feathers, to protect them from the wet, were found to be remarkably large, capable, when opened, of admitting the end of the finger, and contained a large quantity of white greasy matter, and some pure yellow oil ; the gall was in small quantity ; the numerous convolutions and length of the intestines surprised me ; when carefully extended they measured within an inch or two of nine feet, and were no thicker than those of a Robin ! The crop, or craw, was middle-sized, and contained a nearly dissolved fish ; the stomach was a large oblong pouch, capable of considerable distension, and was also filled with half-digested fish ; no appearance of a muscular gizzard.

By the descriptions of European naturalists, it would appear that this bird, or one near akin to it, is a native of the Eastern continent in sum-

mer, as far north as Siberia; the Bald Buzzard of Turton almost exactly agreeing with the present species in size, color, and manners, with the exception of its breeding or making its nest among the reeds, instead of on trees. Mr. Bewick, who has figured and described the female of this bird, under the appellation of the "Osprey," says; "that it builds on the ground, among reeds, and lays three or four eggs of an elliptical form, rather less than those of a hen." This difference of habit may be owing to particular local circumstances, such deviations being usual among many of our native birds. The Italians are said to compare its descent upon the water to a piece of lead falling upon that element; and distinguish it by the name of *Aquila piumbina*, or the Leaden Eagle. In the United States it is everywhere denominated the Fish-Hawk, or Fishing-Hawk, a name truly expressive of its habits.

The regular arrival of this noted bird at the vernal equinox, when the busy season of fishing commences, adds peculiar interest to its first appearance, and procures it many a benediction from the fishermen. With the following lines, illustrative of these circumstances, I shall conclude its history:

Soon as the Sun, great ruler of the year!
Bends to our northern climes his bright career;
And from the caves of ocean calls from sleep
The finny shoals and myriads of the deep;
When freezing tempests back to Greenland ride;
And day and night the equal hours divide;
True to the season, o'er our sea-beat shore,
The sailing Osprey high is seen to soar,
With broad unmoving wing; and, circling slow,
Marks each loose straggler in the deep below:
Sweeps down like lightning! plunges with a roar!
And bears his struggling victim to the shore.

The long-housed fisherman beholds with joy
The well-known signals of his rough employ;
And, as he bears his nets and oars along,
He hails the welcome season with a song.

Note.—The Fish-Hawk passes the winter in the southern parts of the United States. In a winter voyage among the sea-islands of Georgia, and thence into East Florida, I did not observe these birds until I reached the river St. John, on the seventh of February. At the mouth of this river, which is noted for the abundance of its fish, the Ospreys are very numerous; and the frequent attacks which are made upon them, when successful in fishing, by the piratical Bald Eagles, afford a spectacle of no common interest. I sometimes took notice, that when the Fish-Hawk was likely to escape from a single enemy, and had wearied his pursuer by the dexterity of his manœuvres, a fresh Eagle joined in the chase, and then all chance of escape was hopeless.

Wilson states, that this species, on the coast of New Jersey, commences laying about the first of May; but I observed it sitting, in East Florida, on the third of March. The weather was then warm: Fahrenheit being at 80° in the shade.—*G. Ord.*

SPECIES VII. *FALCO ATRICAPILLUS*.*

ASH-COLORED, OR BLACK-CAP HAWK.

[Plate LII. Fig. 3.]

OF this beautiful species I can find no precise description. The Ash-colored Buzzard of Edwards differs so much from this, particularly in wanting the fine zig-zag lines below, and the black cap, that I cannot for a moment suppose them to be the same. The individual from which the drawing was made is faithfully represented in the plate, reduced to one-half its natural dimensions. This bird was shot within a few miles of Philadelphia.

Its general make and aspect denote great strength and spirit; its legs are strong, and its claws of more than proportionate size. Should any other specimen or variety of this Hawk, differing from the present, occur during the publication of this work, it will enable me more accurately to designate the species.

The Black-cap Hawk is twenty-one inches in length; the bill and cere are blue; eye reddish amber; crown black, bordered on each side by a line of white, finely speckled with black; these lines of white meet on the hind-head; whole upper parts slate, tinged with brown, slightest on the quills; legs feathered half way down, and, with the feet, of a yellow color; whole lower parts and femorals white, most elegantly speckled with fine transverse pencilled zig-zag lines of dusky, all the shafts being a long black line; vent pure white.

If this be not the celebrated *Goshawk*, formerly so much esteemed in falconry, it is very closely allied to it. I have never myself seen a specimen of that bird in Europe, and the descriptions of their best naturalists vary considerably; but from a careful examination of the

* *Falco-Palumbarius*, LINN. As was suspected by Wilson, this is not a new species, but the celebrated Goshawk. The following synonymes are given by Prince Musignano: *Falco Columbarius*, GMEL. *Syst.* i., p. 281. LATH.—TEMN.—*F. gentilis*, LINN. GMEL. *Syst.* i., p. 270. LATH. (young) *F. gallinarius*. LINN. LATH. (very young female.) *L'Autour*, BUFF. *Pl. Enl.* 418. (adult) *L'Autour sors*, BUFF. *Pl. Enl.* 461 (young). *Le Buzard*, BUFF. *Pl. Enl.* 423. (very young female.) See *Journal Acad. Nat. Sc.* III., p. 346.

figure and account of the Goshawk, given by the ingenious Mr. Bewick (*Brit. Birds*, v. i., p. 65), I have very little doubt that the present will be found to be the same.

The Goshawk inhabits France and Germany; is not very common in South Britain, but more frequent in the northern parts of the island, and is found in Russia and Siberia. Buffon, who reared two young birds of this kind, a male and female, observes, that "the Goshawk before it has shed its feathers, that is, in its first year, is marked on the breast and belly with longitudinal brown spots; but after it has had two moultings they disappear, and their place is occupied by transverse waving bars, which continue during the rest of its life;" he also takes notice, that though the male was much smaller than the female, it was fiercer and more vicious.

Pennant informs us that the Goshawk is used by the emperor of China in his sporting excursions, when he is usually attended by his grand falconer, and a thousand of inferior rank. Every bird has a silver plate fastened to its foot, with the name of the falconer who has the charge of it, that in case it should be lost, it may be restored to the proper person; but if he should not be found, the bird is delivered to another officer, called the *guardian of lost birds*, who, to make his situation known, erects his standard in a conspicuous place among the army of hunters. The same writer informs us, that he examined in the Leverian museum, a specimen of the Goshawk which came from America, and which was superior in size to the European.

SPECIES VIII. *FALCO BOREALIS*.

RED-TAILED HAWK.

[Plate LII. Fig. 1.]

Arct. Zool. p. 205, No. 100.—*American Buzzard*, LATH. I., 50.—*Turt. Syst.* p. 151.
—*F. Aquilinus*, *cauda ferruginea*, *Great Eagle Hawk*, BARTRAM, p. 290.

THE figure of this bird, and those of the other two Hawks in the same plate, are reduced to exactly half the dimensions of the living subjects. These representations are offered to the public with a confidence in their fidelity; but *these*, I am sorry to say, are almost all I have to give towards elucidating their history. Birds naturally thinly dispersed over a vast extent of country, retiring during summer to the depth of the forests to breed, approaching the habitations of man, like other thieves and plunderers, with shy and cautious jealousy, seldom permitting a near advance, subject to great changes of plumage, and,

since the decline of falconry, seldom or never domesticated, offer to those who wish eagerly to investigate their history, and to delineate their particular character and manners, great and insurmountable difficulties. Little more can be done in such cases than to identify the species, and trace it through the various quarters of the world, where it has been certainly met with.

The Red-tailed Hawk is most frequently seen in the lower parts of Pennsylvania, during the severity of winter. Among the extensive meadows that border the Schuylkill and Delaware, below Philadelphia, where flocks of Larks (*Alauda magna*), and where mice and moles are in great abundance, many individuals of this Hawk spend the greater part of the winter. Others prowl around the plantations, looking out for vagrant chickens; their method of seizing which, is by sweeping swiftly over the spot, and grappling them with their talons, bearing them away to the woods. The bird from which the figure in the plate was drawn, was surprised in the act of feeding on a hen he had just killed, and which he was compelled to abandon. The remains of the chicken were immediately baited to a steel-trap, and early the next morning the unfortunate Red-tail was found a prisoner, securely fastened by the leg. The same hen which the day before he had massacred, was, the very next, made the means of decoying him to his destruction; in the eye of the farmer a system of fair and just retribution.

This species inhabits the whole United States; and, I believe, is not migratory, as I found it in the month of May, as far south as Fort Adams, in the Mississippi territory. The young were at that time nearly as large as their parents, and were very clamorous, making an incessant squealing noise. One, which I shot, contained in its stomach mingled fragments of frogs and lizards.

The Red-tailed Hawk is twenty inches long, and three feet nine inches in extent; bill blue black; cere and sides of the mouth yellow, tinged with green; lores and spot on the under eyelid white, the former marked with fine radiating hairs; eyebrow, or cartilage, a dull eel skin color, prominent, projecting over the eye; a broad streak of dark brown extends from the sides of the mouth backwards; crown and hind-head dark brown, seamed with white and ferruginous; sides of the neck dull ferruginous, streaked with brown; eye large; iris pale amber; back and shoulders deep brown; wings dusky, barred with blackish; ends of the five first primaries nearly black; scapulars barred broadly with white and brown; sides of the tail-coverts white, barred with ferruginous, middle ones dark, edged with rust; tail rounded, extending two inches beyond the wings, and of a bright red brown, with a single band of black near the end, and tipped with brownish white; on some of the lateral feathers are slight indications of the remains of other narrow bars; lower parts brownish white; the breast ferruginous, streaked

with dark brown; across the belly a band of interrupted spots of brown; chin white; femorals and vent pale brownish white, the former marked with a few minute heart-shaped spots of brown; legs yellow, feathered half way below the knees.

This was a male. Another specimen shot within a few days after, agreed in almost every particular of its color and markings with the present; and on dissection was found to be a female.

*FALCO LEVERIANUS?**

AMERICAN BUZZARD.

[Plate LII. Fig. 2.]

It is with some doubt and hesitation that I introduce the present as a distinct species from the preceding. In their size and general aspect they resemble each other considerably; yet I have found both males and females among each; and in the present species I have sometimes found the ground color of the tail strongly tinged with ferruginous, and the bars of dusky but slight; while in the preceding, the tail is sometimes wholly red brown, the single bar of black near the tip excepted; in other specimens evident remains of numerous other bars are visible. In the meantime both are figured, and future observations may throw more light on the matter.

This bird is more numerous than the last; but frequents the same situations in winter. One, which was shot in the wing, lived with me several weeks; but refused to eat. It amused itself by frequently hopping from one end of the room to the other; and sitting for hours at the window, looking down on the passengers below. At first, when approached by any person, he generally put himself in the position in which he is represented; but after some time he became quite familiar, permitting himself to be handled, and shutting his eyes as if quite passive. Though he lived so long without food, he was found on dissection to be exceedingly fat, his stomach being enveloped in a mass of solid fat of nearly an inch in thickness.

The American Buzzard, or White-breasted Hawk, is twenty-two inches long, and four feet in extent; cere pale green; bill pale blue, black at the point; eye bright straw color; eyebrow projecting greatly; head broad, flat and large; upper part of the head, sides of the neck

* *Falco borealis*. Wilson's suspicions of this and the preceding being the same bird, have been confirmed by Prince Musignano. This is the young, the preceding the adult bird.

and back, brown, streaked and seamed with white, and some pale rust; scapulars and wing-coverts spotted with white; wing quills much resembling the preceding species; tail-coverts white, handsomely barred with brown; tail slightly rounded, of a pale brown color, varying in some to a sorrel, crossed by nine or ten bars of black, and tipped for half an inch with white; wings brown, barred with dusky; inner vanes nearly all white; chin, throat and breast, pure white, with the exception of some slight touches of brown that enclose the chin; femorals yellowish white, thinly marked with minute touches of rust; legs bright yellow, feathered half way down; belly broadly spotted with black or very deep brown; the tips of the wings reach to the middle of the tail.

My reason for inclining to consider this a distinct species from the last, is that of having uniformly found the present two or three inches larger than the former, though this may possibly be owing to their greater age.*

SPECIES IX. *FALCO PENNSYLVANICUS*.

SLATE-COLORED HAWK.†

[Plate XLVI. Fig. 1.]

THIS elegant and spirited little Hawk is a native of Pennsylvania, and of the Atlantic states generally; and is now for the first time introduced to the notice of the public. It frequents the more settled parts of the country, chiefly in winter; is at all times a scarce species; flies wide, very irregular, and swiftly; preys on lizards, mice and small birds, and is an active and daring little hunter. It is drawn of full size, from a very beautiful specimen shot in the neighborhood of Philadelphia. The bird within his grasp is the *Tanagra rubra*, or Black-winged Red-bird,

*Prince Musignano is of opinion that Wilson took his admeasurement of the *borealis* from males, and that of the *leverianus* from females; as he has always found the males in both states of plumage twenty inches (a size which Wilson gives as that of the *borealis*), and the females of both, twenty-two inches (the size of the *leverianus* as given by Wilson).

† By comparing this bird with the Sharp-shinned Hawk, it will be obvious that Wilson had good reason for his first opinion, that they are identical; although he subsequently came to a contrary conclusion. It is probable that they will be found to be the same, and that this is the adult, and the Sharp-shinned Hawk the young bird. If this be the case, the name *velox*, which was first given to this species by Wilson, must be retained; unless indeed it should prove to be identical with the *F. fuscus* of authors, as asserted by Prince Musignano; in which event this latter name must of course, having the priority, be adopted.

in its green or first year's dress. In the spring of the succeeding year the green and yellow plumage of this bird becomes of a most splendid scarlet, and the wings and tail deepen into a glossy black.

The great difficulty of accurately discriminating between different species of the Hawk tribe, on account of the various appearances they assume at different periods of their long lives, at first excited a suspicion that this might be one of those with which I was already acquainted, in a different dress, namely, the Sharp-shinned Hawk, figured in Plate XLV. of this work; for such are the changes of color to which many individuals of this genus are subject, that unless the naturalist has recourse to those parts that are subject to little or no alteration in the full-grown bird, viz. the particular conformation of the legs, nostrils, tail, and the relative length of the latter to that of the wings, also the peculiar character of the countenance, he will frequently be deceived. By comparing these, the same species may often be detected under a very different garb. Were all these changes accurately known, there is no doubt but the number of species of this tribe, at present enumerated, would be greatly diminished; the same bird having been described, by certain writers, three, four, and even five different times, as so many distinct species. Testing, however, the present Hawk by the rules above-mentioned, I have no hesitation in considering it as a species different from any hitherto described; and I have classed it accordingly.

The Slate-colored Hawk is eleven inches long; and twenty-one inches in extent; bill blue black; cere and sides of the mouth dull green; eyelid yellow; eye deep sunk under the projecting eyebrow, and of a fiery orange color; upper parts of a fine slate; primaries brown black, and, as well as the secondaries, barred with dusky; scapulars spotted with white and brown, which is not seen unless the plumage be separated by the hand; all the feathers above are shafted with black; tail very slightly forked, of an ash color, faintly tinged with brown, crossed with four broad bands of black, and tipped with white; tail three inches longer than the wings; over the eye extends a streak of dull white; chin white mixed with fine black hairs; breast and belly beautifully variegated with ferruginous and transverse spots of white; femorals the same; vent pure white, legs long, very slender, and of a rich orange yellow; claws black, large, and remarkably sharp; lining of the wing thickly marked with heart-shaped spots of black. This bird on dissection was found to be a male. In the month of February, I shot another individual of this species, near Hampton in Virginia, which agreed almost exactly with the present.

FALCO VELOX.

SHARP-SHINNED HAWK.

[Plate XLV. Fig. 1, Female.]

THIS is a bold and daring species, hitherto unknown to naturalists. The only Hawk we have which approaches near it in color is the Pigeon Hawk, figured in Plate XV. But there are such striking differences in the present, not only in color, but in other respects, as to point out decisively its claims to rank as a distinct species. Its long and slender legs and toes; its red fiery eye, feathered to the eyelids; its triangular grooved nostril, and length of tail, are all different from the Pigeon Hawk, whose legs are short, its eyes dark hazel, surrounded with a broad bare yellow skin, and its nostrils small and circular, centred with a slender point, that rises in it like the pistil of a flower. There is no Hawk mentioned by Pennant, either as inhabiting Europe or America, agreeing with this. I may therefore, with confidence, pronounce it a nondescript; and have chosen a very singular peculiarity which it possesses, for its specific appellation.

This Hawk was shot on the banks of the Schuylkill, near Mr. Bartram's. Its singularity of flight surprised me long before I succeeded in procuring it. It seemed to throw itself from one quarter of the heavens to the other, with prodigious velocity, inclining to the earth; swept suddenly down into a thicket, and instantly re-appeared with a small bird in its talons. This feat I saw it twice perform, so that it was not merely an accidental manœuvre. The rapidity and seeming violence of these zig-zag excursions were really remarkable, and appeared to me to be for the purpose of seizing his prey by sudden surprise, and main force of flight. I kept this Hawk alive for several days, and was hopeful I might be able to cure him; but he died of his wound.

On the 15th of September, two young men whom I had despatched on a shooting expedition, met with this species on one of the ranges of the Alleghany. It was driving around in the same furious headlong manner, and had made a sweep at a red squirrel, which eluded its grasp, and itself became the victim. These are the only individuals of this bird I have been able to procure, and fortunately they were male and female.

The female of this species (represented in the plate) is thirteen inches long, and twenty-five inches in extent; the bill is black towards the point on both mandibles, but light blue at its base; cere a fine pea green; sides of the mouth the same; lores pale whitish blue, beset with

hairs; crown and whole upper parts very dark brown, every feather narrowly skirted with a bright rust color; over the eye a stripe of yellowish white, streaked with deep brown; primaries spotted on their inner vanes with black; secondaries crossed on both vanes with three bars of dusky, below the coverts; inner veins of both primaries and secondaries brownish white; all the scapulars marked with large round spots of white, not seen unless the plumage be parted with the hand; tail long, nearly even, crossed with four bars of black, and as many of brown ash, and tipped with white; throat and whole lower parts pale yellowish white; the former marked with fine long pointed spots of dark brown, the latter with large oblong spots of reddish brown; femorals thickly marked with spade-formed spots, on the pale rufous ground; legs long and feathered a little below the knee, of a greenish yellow color, most yellow at the joints; edges of the inside of the shins below the knee, projecting like the edge of a knife, hard and sharp, as if intended to enable the bird to hold its prey with more security between them; eye, sunk below a projecting cartilage, iris bright yellow.

The male was nearly two inches shorter; the upper parts dark brown; the feathers skirted with pale reddish, the front also streaked with the same; cere greenish yellow; lores bluish; bill black, as in the female; streak over the eye lighter than in the former; chin white; breast the same, streaked with brown; bars on the tail rather narrower, but in tint and number the same; belly and vent white; feet and shins exactly as in the female; the toes have the same pendulous lobes, which mark those of the female, and of which the representation in the plate will give a correct idea; the wings barred with black, very noticeable on the lower side.

Since writing the above, I have shot another specimen of this Hawk, corresponding in almost every particular with the male last mentioned; and which, on dissection, also proves to be a male. This last had within the grasp of his sharp talons a small lizard, just killed, on which he was about to feed. How he contrived to get possession of it appeared to me matter of surprise, as lightning itself seems scarcely more fleet than this little reptile. So rapid are its motions, that, in passing from one place to another, it vanishes, and actually eludes the eye in running a distance of twelve or fifteen feet. It is frequently seen on fences that are covered with gray moss and lichen, which in color it very much resembles; it seeks shelter in hollow trees, and also in the ground about their decayed roots. They are most numerous in hilly parts of the country, particularly on the declivities of the Blue Mountain, among the crevices of rocks and stones. When they are disposed to run, it is almost impossible to shoot them, as they disappear at the first touch of the trigger. For the satisfaction of the curious, I have intro-

duced a full-sized figure of this lizard, which is known in many parts of the country by the name of the Swift.

SPECIES X. *FALCO PENNSYLVANICUS*.*

BROAD-WINGED HAWK.

[Plate LIV. Fig. 1.]

THIS new species, as well as the rest of the figures in the same plate, is represented of the exact size of life. The Hawk was shot on the sixth of May, in Bartram's woods, near the Schuylkill, and was afterwards presented to Mr. Peale. It was perched upon the dead limb of a high tree, feeding on something, which was afterwards found to be the meadow mouse, figured in Plate L. On my approach, it uttered a whining kind of whistle, and flew off to another tree, where I followed and shot it. Its great breadth of wing, or width of the secondaries, and also of its head and body, when compared with its length, struck me as peculiarities. It seemed a remarkably strong-built bird, handsomely marked, and was altogether unknown to me. Mr. Bartram, who examined it very attentively, declared he had never before seen such a Hawk. On the afternoon of the next day I observed another, probably its mate or companion, and certainly one of the same species, sailing about over the same woods. Its motions were in wide circles, with unmoving wings, the exterior outline of which seemed a complete semicircle. I was extremely anxious to procure this also, if possible; but it was attacked and driven away by a King-bird before I could effect my purpose, and I have never since been fortunate enough to meet with another. On dissecting the one which I had shot, it proved to be a male.

In size this Hawk agrees, nearly, with the *Buzzardet* (*Falco albidus*) of Turton, described also by Pennant; (Arct. Zool. N. 109.) but either the descriptions of these authors are very inaccurate, the change of color which that bird undergoes very great, or the present is altogether a different species. Until, however, some other specimens of this Hawk come under my observation, I can only add to the figure here

* The name *Pennsylvanicus*, was given by Wilson to this bird, through inadvertence, he having already given that name to the Slate-colored Hawk, which is a distinct species from the present, as Wilson was well aware. Mr. Ord, in the reprint of this work, called it *F. latissimus*. But should the Slate-colored Hawk (*F. Pennsylvanicus*) and the Sharp-shinned Hawk (*F. velox*), prove to be the same species, then the name *Pennsylvanicus* must be retained for this species, that of *velox* being adopted for the former.

given, and which is a good likeness of the original, the following particulars of its size and plumage.

Length fourteen inches, extent thirty-three inches; bill black, blue near the base, slightly toothed; cere and corners of the mouth yellow; irides bright amber; frontlet and lores white; from the mouth backwards runs a streak of blackish brown; upper parts dark brown, the plumage tipped, and the head streaked, with whitish; almost all the feathers above are spotted or barred with white; but this is not seen unless they be separated by the hand; head large, broad and flat; cere very broad, the nostril also large; tail short, the exterior and interior feathers somewhat the shortest, the others rather longer, of a full black, and crossed with two bars of white, tipped also slightly with whitish; tail-coverts spotted with white; wings dusky brown, indistinctly barred with black; greater part of the inner vanes snowy; lesser coverts, and upper part of the back, tipped and streaked with bright ferruginous; the bars of black are very distinct on the lower side of the wing; lining of the wing brownish white, beautifully marked with small arrow-heads of brown; chin white, surrounded by streaks of black; breast and sides elegantly spotted with large arrow-heads of brown, centred with pale brown; belly and vent, like the breast, white, but more thinly marked with pointed spots of brown; femorals brownish white, thickly marked with small touches of brown and white; vent white; legs very stout; feet coarsely scaled, both of a dirty orange yellow; claws semicircular, strong and very sharp, hind one considerably the largest.

While examining the plumage of this bird, a short time after it was shot, one of those winged ticks, with which many of our birds are infested, appeared on the surface of the feathers, moving about, as they usually do, backwards or sidewise, like a crab, among the plumage, with great facility. The Fish-Hawk, in particular, is greatly pestered with these vermin, which occasionally leave him as suits their convenience. A gentleman, who made the experiment, assured me, that on plunging a live Fish-Hawk under water, several of these winged ticks remained hovering over the spot, and the instant the hawk rose above the surface, darted again among his plumage. The experiment was several times made, with the like result. As soon, however, as these parasites perceive the dead body of their patron beginning to become cold, they abandon it; and if the person who holds it have his head uncovered, dive instantly among his hair, as I have myself frequently experienced; and though driven thence, repeatedly return, till they are caught and destroyed. There are various kinds of these ticks: the one found on the present Hawk is figured beside him. The head and thorax were light brown; the legs, six in number, of a bright green, their joints moving almost horizontally, and thus enabling the creature to pass with the greatest ease between the laminae of feathers; the

wings were single, of a dark amber color, and twice as long as the body, which widened towards the extremity, where it was slightly indented; feet two clawed.

This insect lived for several days between the crystal and dial-plate of a watch, carried in the pocket; but being placed for a few minutes in the sun, fell into convulsions and died.

SPECIES XI. *FALCO FURCATUS*.*

SWALLOW-TAILED HAWK.

[Plate LI. Fig. 2.]

LINN. *Syst.* 129.—LATH. I., 60.—*Hirundo maxima Peruviana avis prædatoris calcaribus instructa*, FEUILLEE, *Voy. Peru*, tom. II., 33.—CATESB. I., 4.—*Le Milan de la Caroline*, BRISS. I., 418.—BUFF. I., 221.—TURT. *Syst.* 149.—*Arct. Zool.* p. 210, No. 108.

THIS very elegant species inhabits the southern districts of the United States in summer; is seldom seen as far north as Pennsylvania, but is very abundant in South Carolina and Georgia, and still more so in West Florida, and the extensive prairies of Ohio and the Indiana Territory. I met with these birds, in the early part of May, at a place called Duck Creek, in Tennessee, and found them sailing about in great numbers near Bayo Manchac on the Mississippi, twenty or thirty being within view at the same time. At that season a species of *Cicada*, or locust, swarmed among the woods, making a deafening noise, and I could perceive these Hawks frequently snatching them from the trees. A species of lizard, which is very numerous in that quarter of the country, and has the faculty of changing its color at will, also furnishes the Swallow-tailed Hawk with a favorite morsel. These lizards are sometimes of the most brilliant light green, in a few minutes change to a dirty clay color, and again become nearly black. The Swallow-tailed Hawk, and Mississippi Kite, feed eagerly on this lizard; and, it is said, on a small green snake also, which is the mortal enemy of the lizard, and frequently pursues it to the very extremity of the branches, where both become the prey of the Hawk.†

The Swallow-tailed Hawk retires to the south in October, at which

* *F. forficatus*, LINN. *Syst.* I., p. 89, *Sp.* II., ed. 10.—LATH. *Ind. Orn.* p. 22, No. 41.—*Milvus furcatus*, VIEILLLOT, *Ois. de l'Am. Sept.* vol. I., p. 38, pl. 10.

† This animal, if I mistake not, is the *Lacerta bullaris*, or *Bladder Lizard*, of Turton, vol. I., p. 666. The facility with which it changes color is surprising, and not generally known to naturalists.

season, Mr. Bartram informs me, they are seen in Florida, at a vast height in the air, sailing about with great steadiness; and continued to be seen thus, passing to their winter quarters, for several days. They usually feed from their claws as they fly along. Their flight is easy and graceful, with sometimes occasional sweeps among the trees, the long feathers of their tail spread out, and each extremity of it used, alternately, to lower, elevate, or otherwise direct their course. I have never yet met with their nests.

These birds are particularly attached to the extensive prairies of the western countries, where their favorite snakes, lizards, grasshoppers and locusts, are in abundance. They are sometimes, though rarely, seen in Pennsylvania and New Jersey, and that only in long and very warm summers. We are informed, that one was taken in the South Sea, off the coast which lies between Ylo and Arica, in about lat. 23° south, on the eleventh of September, by the Reverend the Father Louis Feuillée.* They are also common in Mexico, and extend their migrations as far as Peru.

The Swallow-tailed Hawk measures full two feet in length and upwards of four feet six inches in extent; the bill is black; cere yellow, covered at the base with bristles; iris of the eye silvery cream, surrounded with a blood-red ring; whole head and neck pure white, the shafts fine black hairs; the whole lower parts also pure white; the throat and breast shafted in the same manner; upper parts, or back, black, glossed with green and purple; whole lesser coverts very dark purple; wings long, reaching within two inches of the tip of the tail, and black; tail also very long, and remarkably forked, consisting of twelve feathers, all black, glossed with green and purple; several of the tertials white or edged with white, but generally covered by the scapulars; inner vanes of the secondaries white on their upper half, black towards their points; lining of the wings white; legs yellow, short and thick, and feathered before, half way below the knee; claws much curved, whitish; outer claw very small. The greater part of the plumage is white at the base; and when the scapulars are a little displaced, they appear spotted with white.

This was a male in perfect plumage. The color and markings of the male and female are nearly alike.

* Jour. des Obs. tom. II., 33.

SPECIES XII. *FALCO MISSISSIPPIENSIS*.*

MISSISSIPPI KITE.

[Plate XXV. Fig. 1, Male.]

THIS new species I first observed in the Mississippi territory, a few miles below Natchez, on the plantation of William Dunbar, Esquire, where the bird represented in the plate was obtained after being slightly wounded; and the drawing made with great care from the living specimen. To the hospitality of the gentleman above mentioned, and his amiable family, I am indebted for the opportunity afforded me of procuring this, and one or two more new species. This excellent man, (whose life has been devoted to science) though at that time confined to bed by a severe and dangerous indisposition, and personally unacquainted with me, no sooner heard of my arrival at the town of Natchez, than he sent a servant and horses, with an invitation and request to come and make his house my home and head-quarters, while engaged in exploring that part of the country. The few happy days I spent there I shall never forget.

In my perambulations, I frequently remarked this Hawk sailing about in easy circles, and at a considerable height in the air, generally in company with the Turkey-Buzzards, whose manner of flight it so exactly imitates, as to seem the same species, only in miniature, or seen at a more immense height. Why these two birds, whose food and manners, in other respects, are so different, should so frequently associate together in air, I am at a loss to comprehend. We cannot for a moment suppose them mutually deceived by the similarity of each other's flight; the keenness of their vision forbids all suspicion of this kind. They may perhaps be engaged, at such times, in mere amusement, as they are observed to soar to great heights previous to a storm; or, what is more probable, may both be in pursuit of their respective food. One that he may reconnoitre a vast extent of surface below, and trace the tainted atmosphere to his favorite carrion; the other in search of those large beetles, or coleopterous insects, that are known often to wing the higher regions of the air; and which, in the three individuals of this species

* This species, although supposed to be new by Wilson, had been figured and described by Vieillot, in his "*Histoire Naturelle des Oiseaux de l'Amérique Septentrionale*," under the name of *Milvus cenchrus*. Vieillot refers it to the *F. plumbeus* of Gmelin, and the *Spotted-tailed Hobby* of Latham. Gen. Syn 1., p. 106.

of Hawk which I examined by dissection, were the only substances found in their stomachs. For several miles, as I passed near Bayou Manchak, the trees were swarming with a kind of *Cicada*, or locust, that made a deafening noise; and here I observed numbers of the Hawk now before us, sweeping about among the trees like swallows, evidently in pursuit of these locusts; so that insects, it would appear, are the principal food of this species. Yet when we contemplate the beak and talons of this bird, both so sharp and powerful, it is difficult to believe that they were not intended by nature for some more formidable prey than beetles, locusts, or grasshoppers; and I doubt not but mice, lizards, snakes and small birds, furnish him with an occasional repast.

This Hawk, though wounded and precipitated from a vast height, exhibited, in his distress, symptoms of great strength, and an almost unconquerable spirit. I no sooner approached to pick him up, than he instantly gave battle, striking rapidly with his claws, wheeling round and round as he lay partly on his rump; and defending himself with great vigilance and dexterity; while his dark red eye sparkled with rage. Notwithstanding all my caution in seizing him, to carry him home, he struck his hind claw into my hand with such force as to penetrate into the bone. Anxious to preserve his life, I endeavored gently to disengage it; but this made him only contract it the more powerfully, causing such pain that I had no other alternative but that of cutting the sinew of his heel with my penknife. The whole time he lived with me, he seemed to watch every movement I made; erecting the feathers of his hind-head, and eyeing me with savage fierceness; considering me, no doubt, as the greatest savage of the two. What effect education might have had on this species, under the tutorship of some of the old European professors of Falconry, I know not; but if extent of wing, and energy of character, and ease and rapidity of flight, would have been any recommendations to royal patronage, this species possesses all these in a very eminent degree.

The long pointed wings, and forked tail, point out the affinity of this bird to that family, or subdivision of the *Falco* genus, distinguished by the name of Kites, which sail without flapping the wings, and eat from their talons as they glide along.

The Mississippi Kite measures fourteen inches in length, and thirty-six inches, or three feet, in extent. The head, neck, and exterior webs of the secondaries, are of a hoary white; the lower parts a whitish ash; bill, cere, lores, and narrow line round the eye, black; back, rump, scapulars, and wing-coverts, dark blackish ash; wings very long and pointed, the third quill the longest; the primaries are black, marked down each side of the shaft with reddish sorrel; primary coverts also slightly touched with the same; all the upper plumage at the roots is white; the scapulars are also spotted with white; but this cannot be

perceived unless the feathers be blown aside; tail slightly forked, and, as well as the rump, jet black; legs vermillion, tinged with orange and becoming blackish towards the toes; claws black; iris of the eye dark red, pupil black.

This was a male. With the female, which is expected soon from that country, I shall, in a future volume, communicate such further information relative to their manners and incubation, as I may be able to collect.

SPECIES XIII. *FALCO LAGOPUS*.*

ROUGH-LEGGED FALCON.

[Plate XXXIII. Fig. 1.]

Arct. Zool. p. 200, No. 92.—LATHAM, I., 75.

THIS handsome species, notwithstanding its formidable size and appearance, spends the chief part of the winter among our low swamps and meadows, watching for mice, frogs, lame ducks, and other inglorious game. Twenty or thirty individuals of this family have regularly taken up their winter quarters, for several years past, and probably long anterior to that date, in the meadows below this city, between the rivers Delaware and Schuylkill, where they spend their time watching along the dry banks like cats; or sailing low and slowly over the surface of the ditches. Though rendered shy from the many attempts made to shoot them, they seldom fly far, usually from one tree to another, at no great distance, making a loud squealing as they arise, something resembling the neighing of a young colt; though in a more shrill and savage tone.

The bird represented in the plate was one of this fraternity; and several others of the same association have been obtained and examined during the present winter. On comparing these with Pennant's description, referred to above, they correspond so exactly, that no doubts remain of their being the same species. Towards the beginning of April, these birds abandon this part of the country, and retire to the north to breed.

They are common during winter in the lower parts of Maryland, and numerous in the extensive meadows below Newark, New Jersey; are

* We add the following synonymes: LATH. *Ind. Orn.* p. 19.—GMEL. *Syst.* I., p. 260.—TEM. *Man d'Orn.* I., p. 65.

frequent along the Connecticut river; and, according to Pennant, inhabit England, Norway and Lapmark. Their flight is slow and heavy. They are often seen coursing over the surface of the meadows, long after sunset, many times in pairs. They generally roost on the tall, detached trees, that rise from these low grounds; and take their stations, at daybreak, near a ditch, bank, or hay-stack, for hours together, watching, with patient vigilance, for the first unlucky frog, mouse or lizard, to make its appearance. The instant one of these is descried, the hawk, sliding into the air, and taking a circuitous course along the surface, sweeps over the spot, and in an instant has his prey grappled and sprawling in the air.

The Rough-legged Hawk measures twenty-two inches in length, and four feet two inches in extent; cere, sides of the mouth, and feet, rich yellow; legs feathered to the toes with brownish yellow plumage, streaked with brown, femorals the same; toes comparatively short, claws and bill blue black; iris of the eye bright amber; upper part of the head pale ochre, streaked with brown; back and wings chocolate, each feather edged with bright ferruginous; first four primaries nearly black about the tips, edged externally with silvery in some lights; rest of the quills dark chocolate; lower side, and interior vanes, white; tail-coverts white; tail rounded, white, with a broad band of dark brown near the end, and tipped with white; body below, and breast, light yellow ochre, blotched and streaked with chocolate. What constitutes a characteristic mark of this bird, is a belt or girdle, of very dark brown, passing round the belly, just below the breast, and reaching under the wings to the rump; head very broad, and bill uncommonly small, suited to the humility of its prey.

The female is much darker both above and below, particularly in the belt or girdle, which is nearly black; the tail-coverts are also spotted with chocolate; she is also something larger.

SPECIES XIV. *FALCO NIGER*.*

BLACK HAWK.

[Plate LIII. Fig. 1.]

THIS, and the other two figures in the same plate, are reduced from the large drawings, which were taken of the exact size of nature, to one-half their dimensions. I regret the necessity which obliges me to contract the figures of these birds, by which much of the grandeur of the originals is lost; particular attention, however, has been paid, in the reduction, to the accurate representation of all their parts.

This is a remarkably shy and wary bird, found most frequently along the marshy shores of our large rivers; feeds on mice, frogs and moles; sails much, and sometimes at a great height; has been seen to kill a duck on wing; sits by the side of the marshes, on a stake, for an hour at a time, in an almost perpendicular position, as if dozing; flies with great ease, and occasionally with great swiftness, seldom flapping the wings; seems particularly fond of river shores, swamps and marshes; is most numerous with us in winter, and but rarely seen in summer; is remarkable for the great size of its eye, length of its wings, and shortness of its toes. The breadth of its head is likewise uncommon.

The Black Hawk is twenty-one inches long, and four feet two inches in extent; bill bluish black; cere and sides of the mouth orange yellow; feet the same; eye very large, iris bright hazel; cartilage overhanging the eye, prominent, of a dull greenish color; general color above, brown black, slightly dashed with dirty white; nape of the neck pure white *under the surface*; front white; whole lower parts black, with slight tinges of brown, and a few circular touches of the same on the femorals; legs feathered to the toes, and black, touched with brownish; the wings reach rather beyond the tip of the tail; the five first primaries are white on their inner vanes; tail rounded at the end, deep black, crossed with five narrow bands of pure white, and broadly tipped with dull white; vent black, spotted with white; inside vanes of the primaries snowy; claws black, strong and sharp; toes remarkably short.

I strongly suspect this bird to be of the very same species with the next, though both were found to be males. Although differing greatly

* As Wilson suspected, this is the *F. Sancti Johannis* of Latham. *Ind. Orn.* p. 34, No. 74.—Gmel. *Syst.* I, p. 273, No. 92. *F. Spadiceus*? *Id.* No. 91.

in plumage, yet in all their characteristic features they strikingly resemble each other. The *Chocolate-colored Falcon* of Pennant, and *St. John's Falcon* of the same author (Arct. Zool. No. 93 and 94), are doubtless varieties of this; and very probably his *Rough-legged Falcon* also. His figures, however, are bad, and ill calculated to exhibit the true form and appearance of the bird.

This species is a native of North America alone. We have no account of its ever having been seen in any part of Europe; nor have we any account of its place, or manner of breeding.

BLACK HAWK.—(VARIETY.*)

[Plate LIII. Fig. 2.]

THIS is probably a younger bird of the preceding species, being, though a male, somewhat less than its companion. Both were killed in the same meadow, at the same place and time. In form, features, and habitudes, it exactly agreed with the former.

This bird measures twenty inches in length, and in extent four feet; the eyes, bill, cere, toes, and claws, were as in the preceding; head above white, streaked with black and light brown; along the eyebrows a black line; cheeks streaked like the head; neck streaked with black and reddish brown, on a pale yellowish white ground; whole upper parts brown black, dashed with brownish white and pale ferruginous; tail white for half its length, ending in brown, marked with one or two bars of dusky, and a large bar of black, and tipped with dull white; wings as in the preceding, their lining variegated with black, white and ferruginous; throat and breast brownish yellow, dashed with black; belly beautifully variegated with spots of white, black and pale ferruginous; femorals and feathered legs the same, but rather darker; vent plain brownish white.

The original color of these birds, in their young state, may probably be pale brown, as the present individual seemed to be changing to a darker color on the neck and sides of the head. This change, from pale brown to black, is not greater than some of the genus are actually known to undergo. One great advantage of examining living, or newly killed specimens, is, that whatever may be the difference of color between any two, the eye, countenance, and form of the head, instantly betray the common family to which they belong; for this family like-

* As Wilson supposed, this is the young of the preceding species.

ness is never lost in the living bird, though in stuffed skins, and preserved specimens, it is frequently entirely obliterated. I have no hesitation, therefore, in giving it as my opinion, that the present and preceding birds are of the same species, differing only in age, both being males. Of the female I am unable at present to speak.

Pennant, in his account of the Chocolate-colored Hawk, which is very probably the same with the present and preceding species, observes, that it preys much on ducks, sitting on a rock, and watching their rising, when it instantly strikes them.

While traversing our seacoast and salt marshes, between Cape May and Egg Harbor, I was everywhere told of a *Duck Hawk*, noted for striking down ducks on wing, though flying with their usual rapidity. Many extravagances were mingled with these accounts, particularly, that it always struck the Duck with its breast-bone, which was universally said to project several inches, and to be strong and sharp. From the best verbal descriptions I could obtain of this Hawk, I have strong suspicions that it is no other than the *Black Hawk*, as its wings were said to be long and very pointed, the color very dark, the size nearly alike, and several other traits given that seemed particularly to belong to this species. As I have been promised specimens of this celebrated Hawk next winter, a short time will enable me to determine the matter more satisfactorily. Few gunners in that quarter are unacquainted with the *Duck Hawk*, as it often robs them of their wounded birds, before they are able to reach them.

SPECIES XVI. *FALCO HYEMALIS*.

WINTER FALCON.

[Plate XXXV. Fig. 1.]

TURTON, *Syst.* p. 156.—*Arct. Zool.* p. 209, No. 107.*

THIS elegant and spirited Hawk is represented in the plate of one-half its natural size; the other two figures are reduced in the same proportion. He visits us from the north early in November, and leaves us late in March.

This is a dexterous Frog-catcher; who, that he may pursue his profession with full effect, takes up his winter residence almost entirely among our meadows and marshes. He sometimes stuffs himself so

* We add the following synonymes: *Falco hyemalis*. GMEL. *Syst.* i., p. 274.—LATH. *Ind. Orn.* p. 35.

enormously with these reptiles, that the prominency of his craw makes a large bunch, and he appears to fly with difficulty. I have taken the broken fragments, and whole carcasses, of ten frogs, of different dimensions, from the crop of a single individual: Of his genius and other exploits I am unable to say much. He appears to be a fearless and active bird; silent, and not very shy. One which I kept for some time, and which was slightly wounded, disdained all attempts made to reconcile him to confinement; and would not suffer a person to approach, without being highly irritated; throwing himself backward, and striking with expanded talons, with great fury. Though shorter winged than some of his tribe, yet I have no doubt, but, with proper care, he might be trained to strike nobler game, in a bold style, and with great effect. But the education of Hawks in this country may well be postponed for a time, until fewer improvements remain to be made in that of the human subject.

Length of the Winter Hawk twenty inches, extent forty-one inches, or nearly three feet six inches; cere and legs yellow, the latter long, and feathered for an inch below the knee; bill bluish black, small, furnished with a tooth in the upper mandible; eye bright amber, cartilage over the eye very prominent, and of a dull green; head, sides of the neck, and throat, dark brown, streaked with white; lesser coverts with a strong glow of ferruginous; secondaries pale brown, indistinctly barred with darker; primaries brownish orange, spotted with black, wholly black at the tips; tail long, slightly rounded, barred alternately with dark and pale brown, inner vanes white, exterior feathers brownish orange; wings, when closed, reach rather beyond the middle of the tail; tail-coverts white, marked with heart-shaped spots of brown; breast and belly white, with numerous long drops of brown, the shafts blackish; femoral feathers large, pale yellow ochre, marked with numerous minute streaks of pale brown; claws black. The legs of this bird are represented by different authors as slender; but I saw no appearance of this in those I examined.

The female is considerably darker above, and about two inches longer.

*FALCO LINEATUS.**

RED-SHOULDERED HAWK.

[Plate LIII. Fig. 3.]

Arct. Zool. p. 206, No. 102.—*LATH. I.*, 56, No. 36.—*TURT. Syst.* p. 153

THIS Hawk is more rarely met with than either of those in the same plate. Its haunts are in the neighborhood of the sea. It preys on Larks, Sandpipers, and the small Ringed Plover, and frequently on Ducks. It flies high and irregularly, and not in the sailing manner of the Long-winged Hawks. I have occasionally observed this bird near Egg Harbor, in New Jersey; and once in the meadows below this city. This Hawk was first transmitted to Great Britain by Mr. Blackburne, from Long Island, in the state of New York. Of its manner of building, eggs, &c., we are altogether unacquainted.

The Red-shouldered Hawk is nineteen inches in length; the head and back are brown, seamed and edged with rusty; bill blue black; cere and legs yellow; greater wing-coverts and secondaries pale olive brown, thickly spotted on both vanes with white and pale rusty; primaries very dark, nearly black, and barred or spotted with white; tail rounded, reaching about an inch and a half beyond the wings, black, crossed by five bands of white, and broadly tipped with the same; whole breast and belly bright rusty, speckled and spotted with transverse rows of white, the shafts black; chin and cheeks pale brownish, streaked also with black; iris reddish hazel; vent pale ochre, tipped with rusty; legs feathered a little below the knees, long; these and the feet a fine yellow; claws black; femorals pale rusty, faintly barred with a darker tint.

In the month of April I shot a female of this species, and the only one I have yet met with, in a swamp, seven or eight miles below Philadelphia. The eggs were, some of them, nearly as large as peas, from which circumstance I think it probable they breed in such solitary parts, even in this state. In color, size and markings, it differed very little from the male described above. The tail was scarcely quite so black, and the white bars not so pure; it was also something larger.

* This is stated by Prince Musignano to be the young male of the preceding species.

SPECIES XVI. *FALCO ULIGINOSUS*.*

MARSH HAWK.

[Plate LI. Fig. 1.]

EDW. IV., 291.—LATH. I., 90.—*Arct. Zool.* p. 208, No. 105.—BARTRAM, p. 290.

A DRAWING of this Hawk was transmitted to Edwards more than fifty years ago, by Mr. William Bartram, and engraved in Plate 291 of Edwards' Natural History. At that time, and I believe till now, it has been considered as a species peculiar to this country.

I have examined various individuals of this Hawk, both in summer and in the depth of winter, and find them to correspond so nearly with the Ring-tail of Europe, that I have no doubt of their being the same species.†

This Hawk is most numerous where there are extensive meadows and salt marshes, over which it sails very low, making frequent circuitous sweeps over the same ground, in search of a species of mouse, figured in Plate L., and very abundant in such situations. It occasionally flaps the wings, but is most commonly seen sailing about within a few feet of the surface. They are usually known by the name of the Mouse Hawk along the coast of New Jersey, where they are very common. Several were also brought me last winter from the meadows below Philadelphia. Having never seen its nest, I am unable to describe it from my own observation. It is said, by European writers, to build on the ground, or on low limbs of trees. Pennant observes, that it sometimes changes to a rust-colored variety, except on the rump and tail. It is found, as was to be expected, at Hudson's Bay, being native in both this latitude and that of Britain. We are also informed that it is common in the open and temperate parts of Russia and Siberia; and extends as far as Lake Baikal, though it is said not to be found in the north of Europe.‡

The Marsh Hawk is twenty-one inches long, and three feet eleven inches extent; cere and legs yellow, the former tinged with green, the latter

* *Falco pygargus*, LINN.

† This opinion of Wilson's is in accordance with that of some recent ornithologists. We add the following synonymes: *F. cyaneus*, GMEL. *Syst.* I., p. 226.—LATH. *Ind. Orn.* p. 39.—Ring-tail, PENN. *Brit. Zool.* I., p. 194, No. 59.—Hen-Harrier, ID. p. 193, No. 58.—*F. pygargus*, LINN. *Syst.* I., p. 89, No. 9, ed. 10.—*Circus Hudsonius*, VIEIL. *Ois de l'Am. Sept.* I., p. 36, pl. 9.—Buzard Saint-Martin, TEMM. *Man. d'Orn.* I., p. 72.

‡ Palls, as quoted by Pennant.

long and slender; nostril large, triangular, this, and the base of the bill, thickly covered with strong curving hairs, that rise from the space between the eye and bill, arching over the base of the bill and cere—this is a particular characteristic; bill blue, black at the end; eye dark hazel; cartilage overhanging the eye, and also the eyelid, bluish green; spot under the eye, and line from the front over it, brownish white; head above, and back, dark glossy chocolate brown, the former slightly seamed with bright ferruginous; scapulars spotted with the same *under the surface*; lesser coverts, and band of the wing, here and there edged with the same; greater coverts and primaries tipped with whitish; quills deep brown at the extreme half, some of the outer ones hoary on the exterior edge; all the primaries yellowish white on the inner vanes and upper half, also barred on the inner vanes with black; tail long, extending three inches beyond the wings, rounded at the end, and of a pale sorrel color, crossed by four broad bars of very dark brown, the two middle feathers excepted, which are barred with deep and lighter shades of chocolate brown; chin pale ferruginous; round the neck a collar of bright rust color; breast, belly and vent, pale rust, shafted with brown; femorals long, tapering, and of the same pale rust tint; legs feathered near an inch below the knee. This was a female. The male differs chiefly in being rather lighter, and somewhat less.

This Hawk is particularly serviceable to the rice fields of the southern states, by the havoc it makes among the clouds of Rice Buntings, that spread such devastation among that grain, in its early stage. As it sails low and swiftly, over the surface of the field, it keeps the flocks in perpetual fluctuation, and greatly interrupts their depredations. The planters consider one Marsh Hawk to be equal to several negroes, for alarming the Rice-birds. Formerly the Marsh Hawk used to be numerous along the Schuylkill and Delaware, during the time the seeds of the *Zizania* were ripening, and the Reed-birds abundant; but they have of late years become less numerous here.

Pennant considers the "*strong, thick, and short legs*" of this species as specific distinctions from the Ring-tailed Hawk; the legs, however, are *long and slender*; and a Marsh Hawk such as he has described, with strong, thick and short legs, is nowhere to be found in the United States.

Note.—Montagu, in the "Supplement to the Ornithological Dictionary," an excellent work, positively asserts, that the *F. cyaneus*, and the *F. pygargus*, are the same species. This opinion the same writer had given in a paper, published in the ninth volume of the Linnean Transactions. If this be the fact, the name of *pygargus* must be retained for the species, it being that which was given to it by Linnæus, in the tenth edition of the *Systema Naturæ*, published in the year 1758.—*G. Ord.*

GENUS III. STRIX. OWL.

SPECIES I. *STRIX NYCTEA*.

SNOW OWL.

[Plate XXXII. Fig. 1—Male.]

LATHAM I., 132, No. 17.—BUFFON I., 387.—*Great White Owl*, EDW. 61.—*Snowy Owl*, *Arct. Zool.* 233, No. 121.*

THE Snow Owl represented in the plate, is reduced to half its natural size. To preserve the apparent magnitude, the other accompanying figures are drawn by the same scale.

This great northern hunter inhabits the coldest and most dreary regions of the northern hemisphere, in both continents. The forlorn mountains of Greenland, covered with eternal ice and snows, where, for nearly half the year, the silence of death and desolation might almost be expected to reign, furnish food and shelter to this hardy adventurer; whence he is only driven by the extreme severity of weather towards the seashore. He is found in Lapland, Norway, and the country near Hudson's Bay, during the whole year; is said to be common in Siberia, and numerous in Kamtschatka. He is often seen in Canada, and the northern districts of the United States; and sometimes extends his visits to the borders of Florida. Nature, ever provident, has so effectually secured this bird from the attacks of cold, that not even a point is left exposed. The bill is almost completely hid among a mass of feathers, that cover the face; the legs are clothed with such an exuberance of long thick hair-like plumage, as to appear nearly as large as those of a middle sized dog, nothing being visible but the claws, which are large, black, much hooked, and extremely sharp. The whole plumage, below the surface, is of the most exquisitely soft, warm, and elastic kind; and so closely matted together, as to make it a difficult matter to penetrate to the skin.

The usual food of this species is said to be hares, grouse, rabbits, ducks, mice, and even carrion. Unlike most of his tribe, he hunts by day as well as by twilight, and is particularly fond of frequenting the shores and banks of shallow rivers, over the surface of which he slowly sails, or sits on a rock, a little raised above the water, watching for fish.

* We add the following synonyms: *Strix nyctea*, LINN. *Syst.* ed. 10, I., p. 93.—GMEL. *Syst.* I., p. 291.—LATH. *Ind. Orn.* p. 57.—*Strix candida*, Id. Sup. 2, p. 14.—VIEIL. *Ois. de l'Am. Sept.* I., pl. 18.—TEMM. *Man. d'Orn.* I., p. 82.

These he seizes with a sudden and instantaneous stroke of the foot, seldom missing his aim. In the more southern and thickly settled parts he is seldom seen; and when he appears, his size, color, and singular aspect, attract general notice.

In the month of October I met with this bird on Oswego river, New York, a little below the falls, vigilantly watching for fish. At Pittsburgh, in the month of February, I saw another, which had been shot in the wing some time before. At a place on the Ohio called Long Reach, I examined another, which was the first ever recollected to have been seen there. In the town of Cincinnati, state of Ohio, two of these birds alighted upon the roof of the court-house, and alarmed the whole town. A people more disposed to superstition, would have deduced some dire or fortunate prognostication, from their selecting such a place; but the only solicitude was how to get possession of them, which after several volleys was at length effected. One of these, a female, I afterwards examined, when on my way through that place to New Orleans. Near Bairdstown, in Kentucky, I met with a large and very beautiful one, which appeared to be altogether unknown to the inhabitants of that quarter, and excited general surprise. A person living on the eastern shore of Maryland, shot one of these birds a few months ago, a female, and, having stuffed the skin, brought it to Philadelphia, to Mr. Peale, in expectation no doubt of a great reward. I have examined eleven of these birds within these fifteen months last past, in different and very distant parts of the country, all of which were shot either during winter, late in the fall, or early in spring; so that it does not appear certain whether any remain during summer within the territory of the United States; though I think it highly probable that a few do, in some of the more northern inland parts, where they are most numerous during winter.

The color of this bird is well suited for concealment, while roaming over the general waste of snows; and its flight strong and swift, very similar to that of some of our large Hawks. Its hearing must be exquisite, if we judge from the largeness of these organs in it; and its voice is so dismal, that, as Pennant observes, it adds horror even to the regions of Greenland by its hideous cries, resembling those of a man in deep distress.

The male of this species measures twenty-two inches and a half in length, and four feet six inches in breadth; head and neck nearly white, with a few small dots of dull brown interspersed; eyes deep sunk under projecting eyebrows, the plumage at their internal angles fluted or pressed in, to admit direct vision, below this it bristles up, covering nearly the whole bill; the irides are of the most brilliant golden yellow, and the countenance, from the proportionate smallness of the head, projection of the eyebrow, and concavity of the plumage at the angle of

the eye, very different from that of any other of the genus; general color of the body white, marked with lunated spots of pale brown above, and with semicircular dashes below; femoral feathers long, and legs covered, even over the claws, with long shaggy hair-like down, of a dirty white; the claws, when exposed, appear large, much hooked, of a black color, and extremely sharp pointed; back white, tail rounded at the end, white, slightly dotted with pale brown near the tips; wings, when closed, reach near the extremity of the tail; vent feathers large, strong shafted, and extending also to the point of the tail; upper part of the breast and belly plain white; body very broad and flat.

The female, which measures two feet in length, and five feet two inches in extent, is covered more thickly with spots of a much darker color than those on the male; the chin, throat, face, belly and vent, are white; femoral feathers white, long and shaggy, marked with a few heart-shaped spots of brown; legs also covered to the claws with long white hairy down; rest of the plumage white, every feather spotted or barred with dark brown, largest on the wing quills, where they are about two inches apart; fore part of the crown thickly marked with roundish black spots; tail crossed with bands of broad brownish spots; shafts of all the plumage white; bill and claws, as in the male, black; third and fourth wing quill the longest, span of the foot four inches.

From the various individuals of these birds which I have examined, I have reason to believe that the male alone approaches nearly to white in his plumage, the female rarely or never. The bird from which the figure in the plate was drawn, was killed at Egg Harbor, New Jersey, in the month of December. The conformation of the eye of this bird forms a curious and interesting subject to the young anatomist. The globe of the eye is immovably fixed in its socket, by a strong, elastic, hard, cartilaginous case, in form of a truncated cone; this case being closely covered with a skin, appears at first to be of one continued piece; but on removing the exterior membrane it is found to be formed of fifteen pieces, placed like the staves of a cask, overlapping a little at the base or narrow end, and seem as if capable of being enlarged or contracted, perhaps by the muscular membrane with which they are encased. In five other different species of Owls, which I have since examined, I found nearly the same conformation of this organ, and exactly the same number of staves. The eye being thus fixed, these birds, as they view different objects, are always obliged to turn the head; and nature has so excellently adapted their neck to this purpose, that they can, with ease, turn it round, without moving the body, in almost a complete circle.

SPECIES III. *STRIX HUDSONIA*.*

H A W K O W L.

[Plate L. Fig. 6.]

Little Hawk Owl, EDW. 62.—LATH. I., 142, No. 29.—*Phil. Trans.* 61, 385—*Le Chat-huant de Canada*, BRISS. I., 518.—BUFF. I., 391.—*Chouette à longue queue de Sibirie*, Pl. enl. 463.—*Arct. Zool.* p. 234, No. 123.

THIS is another inhabitant of both continents, a kind of equivocal species, or rather a connecting link between the Hawk and Owl tribes, resembling the latter in the feet, and in the radiating feathers round the eye and bill; but approaching nearer to the former in the smallness of its head, narrowness of its face, and in its length of tail. In short, it seems just such a figure as one would expect to see generated between a Hawk and an Owl of the same size, were it possible for them to produce; and yet it is as distinct, independent, and original a species, as any other. The figure in the plate is reduced to one-half the size of life. It has also another strong trait of the Hawk tribe, in flying and preying by day, contrary to the general habit of Owls. It is characterized as a bold and active species, following the fowler, and carrying off his game as soon as it is shot. It is said to prey on Partridges and other birds; and is very common at Hudson's Bay; where it is called by the Indians *Coparacoch*.† We are also informed that this same species inhabits Denmark and Sweden, is frequent in all Siberia, and on the west side of the Uralian chain, as far as Casan and the Volga; but not in Russia.‡ It was also seen by the navigators near Sandwich sound, in lat. 61° north.

This species is very rare in Pennsylvania, and the more southern parts of the United States. Its favorite range seems to be along the borders of the arctic regions, making occasional excursions southwardly, when compelled by severity of weather, and consequent scarcity of food. I some time ago received a drawing of this bird from the district of Maine, where it was considered rare; that, and the specimen from which the drawing in the plate was taken, which was shot in the neighborhood of Philadelphia, are the only two that have come under my notice. These having luckily happened to be male and female, have enabled me to give a description of both. Of their nest, or manner of breeding, we have no account.

* *Strix funerea*, LINN., which name must be adopted.

† Edwards.

‡ Pennant.

The male of this species is fifteen inches long; the bill orange yellow, and almost hid among the feathers; plumage of the chin curving up over the under mandible; eyes bright orange; head small; face narrow, and with very little concavity; cheeks white; crown and hind-head dusky black, thickly marked with round spots of white; sides of the neck marked with a large curving streak of brown black, with another a little behind it of a triangular form; back, scapulars, rump and tail-coverts, brown olive, thickly speckled with broad spots of white; the tail extends three inches beyond the tips of the wings, is of a brown olive color, and crossed with six or seven narrow bars of white, rounded at the end, and also tipped with white; the breast and chin are marked with a large spot of brown olive; upper part of the breast light, lower, and all the parts below, elegantly barred with dark brown and white; legs and feet covered to, and beyond the claws, with long whitish plumage, slightly yellow, and barred with fine lines of olive; claws horn color. The weight of this bird was twelve ounces.

The female is much darker above; the quills are nearly black, and the upper part of the breast is blotched with deep blackish brown.

It is worthy of remark, that in all Owls that fly by night, the exterior edges and sides of the wing quills are slightly recurved, and end in fine hairs or points; by which means the bird is enabled to pass through the air with the greatest silence, a provision necessary for enabling them the better to surprise their prey. In the Hawk Owl now before us, which flies by day, and to whom this contrivance would be of no consequence, it is accordingly omitted, or at least is scarcely observable. So judicious, so wise and perfectly applicable, are all the dispositions of the Creator.

SPECIES III. *STRIX NEBULOSA*.

BARRED OWL.

[Plate XXXIII. Fig. 2.]

TURTON, *Syst.* 169.—*Arct. Zool.* p. 234, No. 122.—LATH. 133.—*Strix acclamator*, the Whooping Owl, BARTRAM, 289.*

THIS is one of our most common Owls. In winter, particularly, it is numerous in the lower parts of Pennsylvania, among the woods that border the extensive meadows of Schuylkill and Delaware. It is very frequently observed flying during day, and certainly sees more distinctly, at that time, than many of its genus. In one spring, at different times, I met with more than forty of them, generally flying, or sitting exposed. I also once met with one of their nests, containing three young, in the crotch of a white oak, among thick foliage. The nest was rudely put together, composed outwardly of sticks, intermixed with some dry grass, and leaves, and lined with smaller twigs. At another time, in passing through the woods, I perceived something white, on the high shaded branch of a tree, close to the trunk, that, as I thought, looked like a cat asleep. Unable to satisfy myself, I was induced to fire, when, to my surprise and regret, four young Owls, of this same species, nearly full grown, came down headlong, and fluttering for a few moments, died at my feet. Their nest was probably not far distant. I have also seen the eggs of this species, which are nearly as large as those of a young pullet, but much more globular, and perfectly white.

These birds sometimes seize on fowls, partridges, and young rabbits; mice, and small game, are, however, their most usual food. The difference of size between the male and female of this Owl is extraordinary, amounting, sometimes, to nearly eight inches in the length. Both scream during the day like a Hawk.

The male Barred Owl measures sixteen inches and a half in length, and thirty-eight inches in extent; upper parts a pale brown, marked with transverse spots of white; wings barred with alternate bands of pale brown and darker; head smooth, very large, mottled with transverse touches of dark brown, pale brown and white; eyes large, deep blue, the pupil not perceivable; face, or radiated circle of the eyes, gray, surrounded by an outline of brown and white dots; bill yellow,

* We add the following synonymes: *Strix nebulosa*, LATH. *Ind. Orn.* p. 58.—GMEL. *Syst.* I., p. 291.—TEMN. *Man. d' Orn.* I., p. 88.

tinged with green; breast barred transversely with rows of brown and white; belly streaked longitudinally with long stripes of brown, on a yellowish ground; vent plain yellowish white; thighs and feathered legs the same, slightly pointed with brown; toes nearly covered with plumage; claws dark horn color, very sharp; tail rounded, and remarkably concave below, barred with six broad bars of brown, and as many narrow ones of white; the back and shoulders have a cast of chestnut; at each internal angle of the eye is a broad spot of black; the plumage of the radiated circle round the eye ends in long black hairs; and the bill is encompassed by others of a longer and more bristly kind. These, probably, serve to guard the eye when any danger approaches it, in sweeping hastily through the woods; and those usually found on Fly-catchers, may have the same intention to fulfil; for on the slightest touch of the point of any of these hairs, the nictitating membrane was instantly thrown over the eye.

The female is twenty-two inches long, and four feet in extent; the chief difference of color consists in her wings being broadly spotted with white; the shoulder being a plain chocolate brown; the tail extends considerably beyond the tips of the wings; the bill is much larger, and of a more golden yellow; iris of the eye the same as that of the male.

The different character of the feathers of this, and I believe of most Owls, is really surprising. Those that surround the bill, differ little from bristles; those that surround the region of the eyes, are exceeding open, and unwebbed; these are bounded by another set, generally proceeding from the external edge of the ear, of a most peculiar, small, narrow, velvety kind, whose fibres are so exquisitely fine, as to be invisible to the naked eye; above, the plumage has one general character at the surface, calculated to repel rain and moisture; but towards the roots, it is of the most soft, loose, and downy substance, in nature, so much so, that it may be touched without being felt; the webs of the wing quills are also of a delicate softness, covered with an almost imperceptible hair, and edged with a loose silky down, so that the owner passes through the air without interrupting the most profound silence. Who cannot perceive the hand of God in all these things!

SPECIES IV. *STRIX FLAMMEA.*

WHITE, OR BARN OWL.

[Plate L. Fig. 2.]

LATH. I., 138.—*Arct. Zool.* p. 235, No. 124.—*Phil. Trans.* III., 138.—*L'Effraie, ou la Fresaie*, BUFF. I., 366, pl. 26, Pl. enl. 440.—BEWICK'S *British Birds*, I., p. 89.—*Common Owl*, TURT. *Syst.* p. 170.

THIS Owl, though so common in Europe, is rare in this part of the United States; and is only found here during very severe winters. This may possibly be owing to the want of those favorite recesses, which it so much affects in the eastern continent. The multitudes of old ruined castles, towers, monasteries and cathedrals, that everywhere rise to view in those countries, are the chosen haunts of this well known species. Its savage cries at night give, with vulgar minds, a cast of supernatural horror to those venerable mouldering piles of antiquity. This species, being common to both continents, doubtless extends to the arctic regions. It also inhabits Tartary, where, according to Pennant, "the Mongols and natives almost pay it divine honors, because they attribute to this species the preservation of the founder of their empire, Cinghis Khan. That prince, with his small army, happened to be surprised and put to flight by his enemies, and forced to conceal himself in a little coppice: an Owl settled on the bush under which he was hid, and induced his pursuers not to search there, as they thought it impossible that any man could be concealed in a place where that bird would perch. From thenceforth they held it to be sacred, and every one wore a plume of the feathers of this species on his head. To this day the Kalmucs continue the custom on all great festivals; and some tribes have an idol in form of an Owl, to which they fasten the real legs of one."*

This species is rarely found in Pennsylvania in summer. Of its place and manner of building I am unable, from my own observation, to speak. The bird itself has been several times found in the hollow of a tree, and was once caught in a barn in my neighborhood. European writers inform us, that it makes no nest; but deposits its eggs in the holes of walls, and lays five or six of a whitish color; is said to feed on mice and small birds, which, like the most of its tribe, it swallows whole, and afterwards emits the bones, feathers, and other indigestible parts, at its

* *Arct. Zool.* p. 235.

mouth, in the form of small round cakes, which are often found in the empty buildings it frequents. During its repose it is said to make a blowing noise, resembling the snoring of a man.*

It is distinguished in England by various names, the Barn Owl, the Church Owl, Gillihowlet and Screech Owl. In the lowlands of Scotland it is universally called the Hoolet.

The White or Barn Owl is fourteen inches long, and upwards of three feet six inches in extent; bill a whitish horn color, longer than is usual among its tribe; space surrounding each eye remarkably concave, the radiating feathers meeting in a high projecting ridge, arching from the bill upwards; between these lies a thick tuft of bright tawny feathers, that are scarcely seen unless the ridges be separated; face white, surrounded by a border of narrow, thickset, velvety feathers, of a reddish cream color at the tip, pure silvery white below, and finely shafted with black; whole upper parts a bright tawny yellow, thickly sprinkled with whitish and pale purple, and beautifully interspersed with larger drops of white, each feather of the back and wing-coverts ending in an oblong spot of white, bounded by black; head large, tumid; sides of the neck pale yellow ochre, thinly sprinkled with small touches of dusky; primaries and secondaries the same, thinly barred and thickly sprinkled with dull purplish brown; tail two inches shorter than the tips of the wings, even, or very slightly forked, pale yellowish, crossed with five bars of brown, and thickly dotted with the same; whole lower parts pure white, thinly interspersed with small round spots of blackish; thighs the same, legs long, thinly covered with short white down, nearly to the feet, which are of a dirty white, and thickly warted; toes thinly clad with white hairs; legs and feet large and clumsy. The ridge or shoulder of the wing is tinged with bright orange brown. The aged bird is more white; in some, the spots of black on the breast are wanting, and the color below a pale yellow; in others a pure white.

The female measures fifteen inches and a half in length, and three feet eight inches in extent; is much darker above; the lower parts tinged with tawny, and marked also with round spots of black. One of these was lately sent me, which was shot on the border of the meadows below Philadelphia. Its stomach contained the mangled carcasses of four large meadow mice, hair, bones and all. The common practice of most Owls is, after breaking the bones, to swallow the mouse entire; the bones, hair, and other indigestible parts, are afterwards discharged from the mouth, in large roundish dry balls, that are frequently met with in such places as these birds usually haunt.

As the *Meadow-mouse* is so eagerly sought after by those birds, and also by great numbers of Hawks, which regularly, at the commencement

* Bewick, I., p. 90.

of winter, resort to the meadows below Philadelphia, and to the marshes along the seashore, for the purpose of feeding on these little animals, some account of them may not be improper in this place. Fig. 3 represents the Meadow-mouse drawn by the same scale, viz. reduced to one-half its natural dimensions. This species appears not to have been taken notice of by Turton, in his translation of Gmelin's Linnæus. From the nose to the insertion of the tail it measures four inches; the tail is between three-quarters and an inch long, hairy, and usually curves upwards; the fore feet are short, five-toed, the inner toe very short, but furnished with a claw; hind feet also five-toed; the ears are shorter than the fur, through which, though large, they are scarcely noticeable; the nose is blunt; the color of the back is dark brown, that of the belly hoary; the fur is long and extremely fine; the hind feet are placed very far back, and are also short; the eyes exceeding small. This mischievous creature is a great pest to the meadows, burrowing in them in every direction; but is particularly injurious to the embankments raised along the river, perforating them in numerous directions, and admitting the water, which afterwards increases to dangerous breaches, inundating large extents of these low grounds, and thus becoming the instruments of their own destruction. In their general figure they bear great resemblance to the common musk-rat, and, like them, swim and dive well. They feed on the bulbous roots of plants, and also on garlic, of which they are remarkably fond.*

Another favorite prey of most of our Owls is the bat, one species of which is represented at fig. 4, as it hung during the day in the woods where I found it. This also appears to be a nondescript. The length of this bat, from the nose to the tip of the tail, is four inches; the tail itself is as long as the body, but generally curls up inwards; the general

* As Wilson conjectured, this animal was a nondescript. It being a *Campagnol*, it may be classed under the name of *Arvicola Pennsylvanicus*; as it is the same animal which was introduced into my catalogue of Mammalia, under that trivial denomination. As far as our information extends, the female brings forth only *two* young at a litter. Her two teats are inguinal; and the young, by holding on to them, are transported by the mother whithersoever she goes—that is, when they are inclined to accompany her; when dragged along, their position is between her hind legs; and she can run with them hanging to her, as stated, with considerable swiftness.

Dr. Leach, in the Zoological Miscellany, vol. 1., p. 60, figured and described a *Campagnol*, which had been received from Hudson's Bay. This animal, which was named *A. zanthognatha*, has been mistaken, by some naturalists, for the present species, which is not half its size: the Fulvous-cheeked Campagnol measures, from the tip of its nose to the base of its tail, at least *nine* inches, whilst the admeasurement of ours is not more than four inches. Dr. Leach's description is too imperfect: it lacks those details which are essential in discriminating species. The size of his animal we infer from his figure, which he says is "rather less than half of the natural size."—*G. Ord.*

color is a bright iron gray, the fur being of a reddish cream at bottom, then strongly tinged with lake, and minutely tipped with white; the ears are scarcely half an inch long, with two slight valves; the nostrils are somewhat tubular; fore teeth in the upper jaw, none—in the lower, four, not reckoning the tusks; the eyes are very small black points; the chin, upper part of the breast and head, are of a plain reddish cream color; the wings have a single hook or claw each, and are so constructed, that the animal may hang either with its head or tail downward. I have several times found two hanging fast locked together behind a leaf, the hook of one fixed in the mouth of the other; the hind feet are furnished with five toes, sharp-clawed; the membrane of the wings is dusky, shafts light brown; extent twelve inches. In a cave, not far from Carlisle in Pennsylvania, I found a number of these bats in the depth of winter, in very severe weather; they were lying on the projecting shelves of the rocks, and when the brand of fire was held near them, wrinkled up their mouths, showing their teeth; when held in the hand for a short time, they became active, and after being carried into a stove room, flew about as lively as ever.*

SPECIES V. *STRIX PASSERINA*.

LITTLE OWL.

[Plate XXXIV. Fig. 1.]

Arct. Zool. 236, No. 126.—TURTON, *Syst.* 172.†

THIS is one of the least of its whole genus, but like many other little folks, makes up in neatness of general form and appearance, for deficiency of size, and is perhaps the most shapely of all our Owls. Nor are the colors and markings of its plumage inferior in simplicity and effect to most others. It also possesses an eye fully equal in spirit and brilliancy to the best of them.

This species is a general and constant inhabitant of the middle and northern states; but is found most numerous in the neighborhood of the seashore, and among woods and swamps of pine trees. It rarely rambles much during day; but if disturbed, flies a short way, and again

* This species Dr. Goodman calls the *Vespertilio noveboracensis* of Linnæus. See his *American Natural History*, vol. 1., p. 48. Wilson, it should seem, was of a different opinion.

† We add the following synonyms: *Strix passerina*, LINN. *Syst.* ed. 10, vol. 1., p. 93. GMEL. *Syst.* 1., p. 296. No. 12.—*Strix acadensis*, LATH. *Ind. Orn.* p. 65.—*S. acadica*, GMEL. *Syst.* 1., p. 296, No. 43.—TEM. *Man. d'Orn.* 1., p. 92.

takes shelter from the light; at the approach of twilight it is all life and activity; being a noted and dexterous mouse-catcher. It is found as far north as Nova Scotia, and even Hudson's Bay; is frequent in Russia; builds its nest generally in pines, half way up the tree, and lays two eggs, which, like those of the rest of its genus, are white. The melancholy and gloomy umbrage of those solitary evergreens forms its favorite haunts; where it sits dozing and slumbering all day, lulled by the roar of the neighboring ocean.

The Little Owl is seven inches and a half long, and eighteen inches in extent; the upper parts are a plain brown olive, the scapulars, and some of the greater and lesser coverts, being spotted with white; the first five primaries are crossed obliquely with five bars of white; tail rounded, rather darker than the body, crossed with two rows of white spots, and tipped with white; whole interior vanes of the wings spotted with the same; auriculars yellowish brown; crown, upper part of the neck, and circle surrounding the ears, beautifully marked with numerous points of white, on an olive brown ground; front pure white, ending in long blackish hairs; at the internal angle of the eyes, a broad spot of black, radiating outwards; irides pale yellow; bill a blackish horn color, lower parts streaked with yellow ochre and reddish bay; thighs and feathered legs pale buff; toes covered to the claws, which are black, large, and sharp pointed.

The bird from which the foregoing figure and description were taken, was shot on the seashore, near Great Egg Harbor, in New Jersey, in the month of November; and on dissection was found to be a female. Turton describes a species called the White-fronted Owl (*S. albifrons*), which in every thing, except in size, agrees with this bird, and has very probably been taken from a young male; which is sometimes found considerably less than the female.

SPECIES VI. *STRIX BRACHYOTOS*.

SHORT-EARED OWL.

[Plate XXXIII. Fig. 3.]

TURTON, *Syst.* p. 167.—*Arct. Zool.* p. 229, No. 116.—LATH. I., 124.—*La Chouette, ou la grand Chevêche*, BUFF. I., *Pl. enl.* 438.*

THIS is another species common to both continents, being found in Britain as far north as the Orkney isles, where it also breeds; building its nest upon the ground, amidst the heath; arrives and disappears in the south parts of England with the Woodcock, that is in October and April; consequently does not breed there. It is called at Hudson's Bay the Mouse Hawk; and is described as not flying like other Owls in search of prey; but sitting quiet on a stump of a tree, watching for mice. It is said to be found in plenty in the woods near Chatteau bay, on the coast of Labrador. In the United States it is also a bird of passage, coming to us from the north in November, and departing in April. The bird represented in the plate was shot in New Jersey, a few miles below Philadelphia, in a thicket of pines. It has the stern aspect of a keen, vigorous, and active bird; and is reputed to be an excellent mouser. It flies frequently by day, particularly in dark cloudy weather, takes short flights, and, when sitting and looking sharply around, erects the two slight feathers that constitute its horns, which are at such times very noticeable; but otherwise not perceivable. No person, on slightly examining this bird after being shot, would suspect it to be furnished with horns; nor are they discovered but by careful search, or previous observation on the living bird. Bewick, in his History of British Birds, remarks, that this species is sometimes seen in companies; twenty-eight of them being once counted in a turnip field in November.

Length fifteen inches, extent three feet four inches; general color above dark brown, the feathers broadly skirted with pale yellowish brown; bill large, black; irides rich golden yellow, placed in a bed of deep black, which radiates outwards all around, except towards the bill, where the plumage is whitish; ears bordered with a semicircular line of black and tawny yellow dots; tail rounded, longer than usual with Owls, crossed with five bands of dark brown, and as many of yellow

* We add the following synonyms: *Strix brachyotos*, LATH. *Ind. Orn.* p. 55.—*Strix Utula*, LINN. *Syst.* ed. 10, p. 93.—TEM. *Man. d'Orn.* I., p. 99.

ochre, some of the latter have central spots of dark brown, the whole tipped with white; quills also banded with dark brown and yellow ochre; breast and belly streaked with dark brown, on a ground of yellowish; legs, thighs and vent, plain dull yellow; tips of the three first quill feathers black; legs clothed to the claws, which are black, curved to about the quarter of a circle, and exceedingly sharp.

The female I have never seen; but she is said to be somewhat larger and much darker; and the spots on the breast larger and more numerous.

SPECIES VIII. *STRIX VIRGINIANA*.

GREAT HORNED OWL.

[Plate L. Fig. 1.]

Arct. Zool. p. 228, No. 114.—EDW. 60.—LATH. I., 119.—TURT. *Syst.* p. 166.*

THE figure of this bird, as well as of those represented in the same plate, is reduced to one-half its natural dimensions. By the same scale, the greater part of the Hawks and Owls of the present volume† are drawn; their real magnitude rendering this unavoidable.

This noted and formidable Owl is found in almost every quarter of the United States. His favorite residence, however, is in the dark solitudes of deep swamps, covered with a growth of gigantic timber; and here, as soon as evening draws on, and mankind retire to rest, he sends forth such sounds, as seem scarcely to belong to this world, startling the solitary pilgrim as he slumbers by his forest fire,

“Making night hideous.”

Along the mountainous shores of the Ohio, and amidst the deep forests of Indiana, alone, and reposing in the woods, this ghostly watchman frequently warned me of the approach of morning, and amused me with his singular exclamations; sometimes sweeping down and around my fire, uttering a loud and sudden *Waugh O! Waugh O!* sufficient to have alarmed a whole garrison. He has other nocturnal solos, no less melodious, one of which very strikingly resembles the half-suppressed screams of a person suffocating, or throttled, and cannot fail of being

* We add the following synonymes: *Hibou des Terres Magellaniques*, BUFF. *Pl. Enl.* 385.—*Bubo Virginianus*, BRISS. I., p. 484.—*Strix Virginiana*, IND. *Orn.* p. 52.—GMEI. *Syst.* I., p. 287.—*Virginian Eared Owl*, LATH. *Gen. Syn. Supl.* VI., p. 40.

† Volume VI. of the original edition.

exceedingly entertaining to a lonely, benighted traveller, in the midst of an Indian wilderness.

This species inhabits the country round Hudson's Bay; and, according to Pennant, who considers it a mere variety of the Eagle Owl (*Strix bubo*) of Europe, is found in Kamtschatka; extends even to the Arctic regions, where it is often found white; and occurs as low as Astrakan. It has also been seen white in the United States; but this has doubtless been owing to disease or natural defect, and not to climate. It preys on young rabbits, squirrels, rats, mice, partridges, and small birds of various kinds. It has been often known to prowl about the farm-house, and carry off chickens from the roost. A very large one, wing-broken while on a foraging excursion of this kind, was kept about a house for several days, and at length disappeared, no one knew how. Almost every day after this, hens and chickens also disappeared, one by one, in an unaccountable manner, till in eight or ten days very few were left remaining. The fox, the minx and weasel, were alternately the reputed authors of this mischief, until one morning, an old lady, rising before day to bake, in passing towards the oven, surprised her late prisoner the Owl, regaling himself on the body of a newly killed hen. The thief instantly made for his hole under the house, whence the enraged matron soon dislodged him with the brush-handle, and without mercy despatched him. In this snug retreat were found the greater part of the feathers, and many large fragments, of her whole family of chickens.

There is something in the character of the Owl so recluse, solitary and mysterious, something so discordant in the tones of its voice, heard only amid the silence and gloom of night, and in the most lonely and sequestered situations, as to have strongly impressed the minds of mankind in general with sensations of awe, and abhorrence of the whole tribe. The poets have indulged freely in this general prejudice; and in their descriptions and delineations of midnight storms, and gloomy scenes of nature, the Owl is generally introduced to heighten the horror of the picture. Ignorance and superstition, in all ages, and in all countries, listen to the voice of the Owl, and even contemplate its physiognomy with feelings of disgust, and a kind of fearful awe. The priests, or conjurers, among some of our Indian nations, have taken advantage of the reverential horror for this bird, and have adopted the *Great Horned Owl*, the subject of the present account, as the symbol or emblem of their office. "Among the Creeks," says Mr. Bartram, "the junior priests, or students, constantly wear a white mantle, and have a Great Owl skin cased and stuffed very ingeniously, so well executed as almost to appear like the living bird, having large sparkling glass beads, or buttons, fixed in the head for eyes. This insignia of wisdom and divination they wear sometimes as a crest on the top of the head; at other times the image sits on the arm, or is borne on the hand. These

bachelors are also distinguished from the other people by their taciturnity, grave and solemn countenance, dignified step, and singing to themselves songs or hymns in a low, sweet voice, as they stroll about the town."*

Nothing is a more effectual cure for superstition than a knowledge of the general laws and productions of nature; nor more forcibly leads our reflections to the first, great, self-existent CAUSE of all, to whom our reverential awe is then humbly devoted, and not to any of his dependent creatures. With all the gloomy habits, and ungracious tones, of the Owl, there is nothing in this bird supernatural or mysterious, or more than that of a simple bird of prey, formed for feeding by night, like many other animals, and of reposing by day. The harshness of its voice, occasioned by the width and capacity of its throat, may be intended by heaven as an alarm and warning to the birds and animals on which it preys, to secure themselves from danger. The voices of all carnivorous birds and animals are also observed to be harsh and hideous, probably for this very purpose.

The Great Horned Owl is not migratory, but remains with us the whole year. During the day he slumbers in the thick evergreens of deep swamps, or seeks shelter in large hollow trees. He is very rarely seen abroad by day, and never but when disturbed. In the month of May they usually begin to build. The nest is generally placed in the fork of a tall tree, and is constructed of sticks, piled in considerable quantities, lined with dry leaves, and a few feathers. Sometimes they choose a hollow tree, and in that case carry in but few materials. The female lays four eggs, nearly as large as those of a hen, almost globular, and of a pure white. In one of these nests, after the young had flown, were found the heads and bones of two chickens, the legs and head of the Golden-winged Woodpecker, and part of the wings and feathers of several other birds. It is generally conjectured that they hatch but once in the season.

The length of the male of this species is twenty inches; the bill is large, black and strong, covered at the base with a cere; the eyes golden yellow; the horns are three inches in length, and very broad, consisting of twelve or fourteen feathers, their webs black, broadly edged with bright tawny; face rusty, bounded on each side by a band of black; space between the eyes and bill whitish; whole lower parts elegantly marked with numerous transverse bars of dusky, on a bright tawny ground, thinly interspersed with white; vent pale yellow ochre, barred with narrow lines of brown; legs and feet large and covered with feathers, or hairy down, of a pale brown color; claws very large, blue black; tail rounded, extending about an inch beyond the tips of the

* Travels, p. 504.

wings, crossed with six or seven narrow bars of brown, and variegated or marbled with brown and tawny; whole upper parts finely pencilled with dusky, on a tawny and whitish ground; chin pure white, under that a band of brown, succeeded by another narrow one of white; eyes very large.

The female is full two feet in length, and has not the white on the throat so pure. She has also less of the bright ferruginous or tawny tint below; but is principally distinguished by her superior magnitude.

SPECIES VIII. *STRIX OTUS*.

LONG-EARED OWL.

[Plate LI. Fig. 3, Female.]

GMEL. *Syst.* I., p. 288.—BEWICK, I., p. 84.*

THIS Owl is common to both continents, and is much more numerous in Pennsylvania than the White, or Barn Owl: six or seven were found in a single tree, about fifteen miles from this city. There is little doubt but this species is found inhabiting America to a high latitude; though we have no certain accounts of the fact. Except in size, this species has more resemblance to the Great Horned Owl than any other of its tribe. It resembles it also in breeding among the branches of tall trees; lays four eggs of nearly a round form, and pure white.† The young are grayish white until nearly full grown, and roost during the day close together on a limb, among the thickest of the foliage. This Owl is frequently seen abroad during the day, but is not remarkable for its voice or habits.

The Long-eared Owl is fourteen inches and a half long, and three feet two inches in extent; ears large, composed of six feathers, gradually lengthening from the front one backwards, black, edged with rusty yellow; irides vivid yellow; inside of the circle of the face white, outside or cheeks rusty; at the internal angle of the eye a streak of black; bill blackish horn color; forehead and crown deep brown, speckled with minute points of white and pale rusty; outside circle of the face black, finely marked with small curving spots of white; back and wings dark brown, sprinkled and spotted with white, pale ferruginous and dusky; primaries barred with brownish yellow and dusky,

* We add the following synonyms: *Strix otus*, LINN. *Syst.* I., p. 92, No. 4, ed. 10.—BUFF. *Pl. Enl.* 29.—LATH. *Gen. Syn.* I., p. 121, *Ind. Orn.* p. 55.

† Buffon remarks, that it rarely constructs a nest of its own; but not unfrequently occupies that of others, particularly the Magpie.

darkening towards the tips; secondaries more finely barred, and powdered with white and dusky; tail rounded at the end, of the same length with the wings, beautifully barred and marbled with dull white and pale rusty, on a dark brown ground; throat and breast clouded with rusty, cream, black and white; belly beautifully streaked with large arrow-heads of black; legs and thighs plain pale rusty, feathered to the claws, which are blue black, large and sharp; inside of the wing brownish yellow, with a large spot of black at the root of the primaries.

This was a female. Of the male I cannot speak precisely; though from the numbers of these birds which I have examined in the Autumn, when it is difficult to ascertain their sex, I conjecture that they differ very little in color.

About six or seven miles below Philadelphia, and not far from the Delaware, is a low swamp,* thickly covered with trees, and inundated during great part of the year. This place is the resort of great numbers of the Qua-bird, or Night Raven (*Ardea nycticorax*), where they build in large companies. On the twenty-fifth of April, while wading among the dark recesses of this forest, observing the habits of these birds, I discovered a *Long-eared Owl*, which had taken possession of one of their nests, and was sitting; on mounting to the nest, I found it contained four eggs, and breaking one of these, the young appeared almost ready to leave the shell. There were numbers of the Qua-birds' nests on the adjoining trees all around, and one of them actually on the same tree. Thus we see how unvarying are the manners of this species, however remote and different the countries may be where it has taken up its residence.

* Commonly known by the name of *Cocker's swamp*, from time immemorial a noted place for the shooting of Woodcocks.

SPECIES IX. *STRIX NÆVIA*.*

MOTTLED OWL.

[Plate XIX. Fig. 1, Female.]

Arct. Zool. 231, No. 118.—LATHAM, I., 126.—TURTON, I., 167.

ON contemplating the grave and antiquated figure of this *night wanderer*, so destitute of everything like gracefulness of shape, I can scarcely refrain from smiling at the conceit, of the ludicrous appearance this bird must have made, had nature bestowed on it the powers of song, and given it the faculty of warbling out sprightly airs, while robed in such a solemn exterior. But the great God of Nature hath, in his wisdom, assigned to this class of birds a more unsocial, and less noble, though, perhaps, not less useful, disposition by assimilating them, not only in form of countenance, but in voice, manners, and appetite, to some particular beasts of prey; secluding them from the enjoyment of the gay sunshine of day, and giving them little more than the few solitary hours of morning and evening twilight, to procure their food, and pursue their amours; while all the tuneful tribes, a few excepted, are wrapped in silence and repose. That their true character, however, should not be concealed from those weaker animals on whom they feed (for Heaven abhors deceit and hypocrisy), He has stamped their countenance with strong traits of their murderer the Cat; and birds in this respect are, perhaps, better physiognomists than men.

The Owl now before us is chiefly a native of the northern regions, arriving here, with several others, about the commencement of cold weather; frequenting the uplands and mountainous districts, in preference to the lower parts of the country; and feeding on mice, small birds, beetles, and crickets. It is rather a scarce species in Pennsylvania; flies usually in the early part of night and morning; and is sometimes observed sitting on the fences during day, when it is easily caught; its vision at that time being very imperfect.

The bird represented in the plate was taken in this situation, and presented to me by a friend. I kept it in the room beside me for some time; during which its usual position was such as I have given it. Its eyelids were either half shut, or slowly and alternately opening and

* *Strix asio*. This is the adult of the following species, and the name *asio* given to the young, must be retained for the species, as the young was first described. See LINN. *Syst.* I., p. 92, No. 3, ed. 10.

shutting, as if suffering from the glare of day; but no sooner was the sun set, than its whole appearance became lively and animated; its full and globular eyes shone like those of a cat; and it often lowered its head, in the manner of a cock when preparing to fight, moving it from side to side, and also vertically, as if reconnoitring you with great sharpness. In flying through the room, it shifted from place to place with the silence of a spirit, (if I may be allowed the expression), the plumage of its wings being so extremely fine and soft as to occasion little or no friction with the air; a wise provision of nature, bestowed on the whole genus, to enable them, without giving alarm, to seize their prey in the night. For an hour or two in the evening, and about break of day, it flew about with great activity. When angry, it snapped its bill repeatedly with violence, and so loud as to be heard in the adjoining room, swelling out its eyes to their full dimensions, and lowering its head as before described. It swallowed its food hastily, in large mouthfuls; and never was observed to drink. Of the eggs and nest of this species I am unable to speak.

The Mottled Owl is ten inches long, and twenty-two in extent; the upper part of the head, the back, ears and lesser wing-coverts, are dark brown, streaked and variegated with black, pale brown, and ash; wings lighter, the greater coverts and primaries spotted with white; tail short, even, and mottled with black, pale brown, and whitish, on a dark brown ground; its lower side gray; horns (as they are usually called) very prominent, each composed of ten feathers; increasing in length from the front backwards, and lightest on the inside; face whitish, marked with small touches of dusky, and bounded on each side with a circlet of black; breast and belly white, beautifully variegated with ragged streaks of black, and small transverse touches of brown; legs feathered nearly to the claws, with a kind of hairy down, of a pale brown color; vent and under tail-coverts white, the latter slightly marked with brown; iris of the eye a brilliant golden yellow; bill and claws bluish horn color.

This was a female. The male is considerably less in size; the general colors darker; and the white on the wing-coverts not so observable.

Hollow trees, either in the woods or orchard, or close evergreens, in retired situations, are the usual roosting places of this and most of our other species. These retreats, however, are frequently discovered by the Nuthatch, Titmouse, or Blue Jay, who instantly raise the alarm; a promiscuous group of feathered neighbors soon collect round the spot, like crowds in the streets of a large city, when a thief or murderer is detected; and by their insults and vociferation oblige the recluse to seek for another lodging elsewhere. This may account for the circumstance of sometimes finding them abroad during the day, on fences and other exposed situations.

*STRIX ASIO.**

RED OWL.

[Plate XLII. Fig. 1, Female.]

Little Owl, CATESB. I., 7.—LATH. I., 123.—LINN. *Syst.* 132. *Arct. Zool.* II., No. 117.
TURT. *Syst.* I., p. 166.

THIS is another of our nocturnal wanderers, well known by its common name, the *Little Screech Owl*; and noted for its melancholy quivering kind of wailing in the evenings, particularly towards the latter part of summer and autumn, near the farm-house. On clear moonlight nights, they answer each other from various parts of the fields or orchard; roost during the day in thick evergreens, such as cedar, pine, or juniper trees, and are rarely seen abroad in sunshine. In May they construct their nest in the hollow of a tree, often in the orchard, in an old apple tree; the nest is composed of some hay and a few feathers; the eggs are four, pure white and nearly round. The young are at first covered with a whitish down.

The bird represented in the plate, I kept for several weeks in the room beside me. It was caught in a barn, where it had taken up its lodging, probably for the greater convenience of mousing; and being unhurt, I had an opportunity of remarking its manners. At first it struck itself so forcibly against the window, as frequently to deprive it, seemingly, of all sensation for several minutes; this was done so repeatedly, that I began to fear that either the glass, or the Owl's skull, must give way. In a few days, however, it either began to comprehend something of the matter, or to take disgust at the glass, for it never repeated its attempts; and soon became quite tame and familiar. Those who have seen this bird only in the day, can form but an imperfect idea of its activity, and even sprightliness, in its proper season of exercise. Throughout the day, it was all stillness and gravity; its eyelids half shut, its neck contracted, and its head shrunk seemingly into its body; but scarcely was the sun set, and twilight began to approach, when its eyes became full and sparkling, like two living globes of fire; it crouched on its perch, reconnoitred every object around with looks of eager fierceness; alighted and fed; stood on the meat with clenched talons, while it tore it in morsels with its bill; flew round the room with the silence of thought, and

* This is the young bird.

perching, moaned out its melancholy notes, with many lively gesticulations, not at all accordant with the pitiful tone of its ditty, which reminded one of the shivering moanings of a half-frozen puppy.

This species is found generally over the United States, and is not migratory.

The Red Owl is eight inches and a half long, and twenty-one inches in extent; general color of the plumage above, a bright nut brown or tawny red; the shafts black; exterior edges of the outer row of scapulars white; bastard wing, the five first primaries and three or four of the first greater coverts, also spotted with white; whole wing quills spotted with dusky on their exterior webs; tail rounded, transversely barred with dusky and pale brown; chin, breast, and sides, bright reddish brown, streaked laterally with black, intermixed with white; belly and vent white, spotted with bright brown; legs covered to the claws with pale brown hairy down; extremities of the toes and claws pale bluish, ending in black; bill a pale bluish horn color; eyes vivid yellow; inner angles of the eyes, eyebrows, and space surrounding the bill, whitish; rest of the face nut brown; head horned or eared, each consisting of nine or ten feathers, of a tawny red, shafted with black.

ORDER II. PICÆ. PIES.

GENUS 4. LANIUS. SHRIKE.

SPECIES I. *LANIUS EXCUBITOR*?*

GREAT AMERICAN SHRIKE, OR BUTCHER-BIRD.

[Plate V. Fig. 1.]

La Pie-grièche grise, BUFF. I., 296. *Pl. enl.* 445.—*White Whisky-John*, *Phil. Trans.* LXII., p. 386.—*Arct. Zool.* II., No. 127.

THE form and countenance of this bird bespeak him full of courage and energy; and his true character does not belie his appearance, for he possesses these qualities in a very eminent degree. He is represented in the plate rather less than his true size; but in just proportion; and with a fidelity that will enable the European naturalist to determine, whether this be really the same with the great Cinereous Shrike (*Lanius excubitor*, Linn.), of the eastern continent or not; though the progressive variableness of the plumage, passing, according to age, and sometimes to

* *Lanius septentrionalis*, GMEL.

climate, from ferruginous to pale ash, and even to a bluish white, renders it impossible that this should be an exact representation of every individual.

This species is by no means numerous in the lower parts of Pennsylvania ; though most so during the months of November, December and March. Soon after this it retires to the north, and to the higher inland parts of the country to breed. It frequents the deepest forests ; builds a large and compact nest in the upright fork of a small tree, composed outwardly of dry grass, and whitish moss, and warmly lined within with feathers. The female lays six eggs, of a pale cinereous color, thickly marked at the greater end with spots and streaks of rufous. She sits fifteen days. The young are produced early in June, sometimes towards the latter end of May ; and during the greater part of the first season are of a brown ferruginous color on the back.

When we compare the beak of this species, with his legs and claws, they appear to belong to two very different orders of birds ; the former approaching, in its conformation, to that of the Accipitrine ; the latter to those of the Pies ; and, indeed, in his food and manners, he is assimilated to both. For though man has arranged and subdivided this numerous class of animals into separate tribes and families, yet nature has united these to each other by such nice gradations, and so intimately, that it is hardly possible to determine where one tribe ends, or the succeeding commences. We therefore find several eminent naturalists classing this genus of birds with the Accipitrine, others with the Pies. Like the former he preys, occasionally, on other birds ; and like the latter on insects, particularly grasshoppers, which I believe to be his principal food ; having at almost all times, even in winter, found them in his stomach. In the month of December, and while the country was deeply covered with snow, I shot one of these birds, near the head waters of the Mohawk river, in the state of New York, the stomach of which was entirely filled with large black spiders. He was of a much purer white, above, than any I have since met with ; though evidently of the same species with the present ; and I think it probable, that the males become lighter colored as they advance in age, till the minute transverse lines of brown on the lower parts almost disappear.

In his manners he has more resemblance to the pies than to birds of prey, particularly in the habit of carrying off his surplus food, as if to hoard it for future exigences ; with this difference, that Crows, Jays, Magpies, &c., conceal theirs at random, in holes and crevices, where perhaps it is forgotten or never again found ; while the Butcher-bird sticks his on thorns and bushes, where it shrivels in the sun, and soon becomes equally useless to the hoarder. Both retain the same habits in a state of confinement, whatever the food may be that is presented to them.

This habit of the Shrike of seizing and impaling grasshoppers, and other insects, on thorns, has given rise to an opinion, that he places their carcasses there, by way of baits, to allure small birds to them, while he himself lies in ambush to surprise and destroy them. In this, however, they appear to allow him a greater portion of reason and contrivance than he seems entitled to, or than other circumstances will altogether warrant; for we find that he not only serves grasshoppers in this manner, but even small birds themselves, as those have assured me who have kept them in cages in this country, and amused themselves with their manœuvres. If so, we might as well suppose the farmer to be inviting Crows to his corn, when he hangs up their carcasses around it, as the Butcher-bird to be decoying small birds by a display of the dead bodies of their comrades.

In the "Transactions of the American Philosophical Society," vol. iv., p. 124, the reader may find a long letter on this subject, from Mr. John Heckewelder, of Bethlehem, to Dr. Barton; the substance of which is as follows: That on the 17th of December, 1795, he (Mr. Heckewelder) went to visit a young orchard, which had been planted a few weeks before, and was surprised to observe on every one of the trees one, and on some, two and three grasshoppers, stuck down on the sharp thorny branches; that on inquiring of his tenant the reason of this, he informed him, that they were stuck there by a small bird of prey called by the Germans *Neuntoedter* (Ninekiller), which caught and stuck nine grasshoppers a day; and he supposed that as the bird itself never fed on grasshoppers, it must do it for pleasure. Mr. Heckewelder now recollected that one of those *Ninekillers* had, many years before, taken a favorite bird of his out of his cage, at the window; since which he had paid particular attention to it; and being perfectly satisfied that it lived entirely on mice and small birds, and, moreover, observing the grasshoppers on the trees all fixed in natural positions, as if alive, he began to conjecture that this was done to decoy such small birds as feed on these insects to the spot, that he might have an opportunity of devouring them. "If it were true," says he, "that this little hawk had stuck them up for himself, how long would he be in feeding on one or two hundred grasshoppers? But if it be intended to seduce the smaller birds to feed on these insects, in order to have an opportunity of catching them, that number, or even one-half, or less, may be a good bait all winter," &c., &c.

This is indeed a very pretty fanciful theory, and would entitle our bird to the epithet *Fowler*, perhaps with more propriety than *Lanius*, or *Butcher*; but, notwithstanding the attention which Mr. Heckewelder professes to have paid to this bird, he appears not only to have been unacquainted that grasshoppers were in fact the favorite food of this Ninekiller, but never once to have considered, that grasshoppers would

be but a very insignificant and tasteless bait for our winter birds, which are chiefly those of the Finch kind, that feed almost exclusively on hard seeds and gravel; and among whom five hundred grasshoppers might be stuck up on trees and bushes, and remain there untouched by any of them for ever. Besides, where is his necessity of having recourse to such refined stratagems, when he can at any time seize upon small birds by mere force of flight? I have seen him, in an open field, dart after one of our small sparrows, with the rapidity of an arrow, and kill it almost instantly. Mr. William Bartram long ago informed me, that one of these Shrikes had the temerity to pursue a Snow-bird (*F. Hudsonia*), into an open cage, which stood in the garden; and before they could arrive to its assistance, had already strangled and scalped it, though he lost his liberty by the exploit. In short I am of opinion, that his resolution and activity are amply sufficient to enable him to procure these small birds whenever he wants them, which I believe is never but when hard pressed by necessity, and a deficiency of his favorite insects; and that the Crow or the Blue Jay may, with the same probability, be supposed to be laying baits for mice and flying squirrels, when they are hoarding their Indian corn, as he for birds while thus disposing of the exuberance of his favorite food. Both the former and the latter retain the same habits in a state of confinement; the one filling every seam and chink of his cage with grain, crumbs of bread, &c., and the other sticking up, not only insects, but flesh, and the bodies of such birds as are thrown in to him, on nails or sharpened sticks, fixed up for the purpose. Nor, say others, is this practice of the Shrike difficult to be accounted for. Nature has given to this bird a strong, sharp, and powerful beak, a broad head, and great strength in the muscles of his neck; but his legs, feet and claws, are by no means proportionably strong; and are unequal to the task of grasping and tearing his prey, like those of the Owl and Falcon kind. He therefore wisely avails himself of the powers of the former, both in strangling his prey, and in tearing it to pieces while feeding.

The character of the Butcher-bird is entitled to no common degree of respect. His activity is visible in all his motions; his courage and intrepidity beyond every other bird of his size (one only excepted, the King-bird, *L. tyrannus*, Linn.), and in affection for his young he is surpassed by no other. He associates with them in the latter part of summer, the whole family hunting in company. He attacks the largest Hawk, or Eagle, in their defence, with a resolution truly astonishing; so that all of them respect him; and on every occasion decline the contest. As the snows of winter approach, he descends from the mountainous forests, and from the regions of the north, to the more cultivated parts of the country, hovering about our

hedge-rows, orchards and meadows, and disappears again early in April.

The Great American Shrike is ten inches in length, and thirteen in extent; the upper part of the head, neck and back, is pale cinereous; sides of the head nearly white, crossed with a bar of black, that passes from the nostril through the eye to the middle of the neck; the whole under parts, in some specimens, are nearly white, and thickly marked with minute transverse curving lines of light brown; the wings are black, tipped with white, with a single spot of white on the primaries, just below their coverts; the scapulars, or long downy feathers that fall over the upper part of the wing, are pure white; the rump and tail-coverts a very fine gray or light ash; the tail is cuneiform, consisting of twelve feathers, the two middle ones wholly black, the others tipped more and more with white to the exterior ones, which are nearly all white; the legs, feet and claws, are black; the beak straight, thick, of a light blue color; the upper mandible furnished with a sharp process bending down greatly at the point, where it is black, and beset at the base with a number of long black hairs or bristles; the nostrils are also thickly covered with recumbent hairs; the iris of the eye is a light hazel, pupil black. The figure in the plate will give a perfect idea of the bird. The female is easily distinguished by being ferruginous on the back and head; and having the band of black extending only *behind* the eye, and of a dirty brown or burnt color, the under parts are also something rufous, and the curving lines more strongly marked; she is rather less than the male, which is different from birds of prey in general, the females of which are usually the larger of the two.

In the Arctic Zoology we are told that this species is frequent in Russia, but does not extend to Siberia; yet one was taken within Behring's straits, on the Asiatic side, in lat. 66°; and the species probably extends over the whole continent of North America, from the western ocean. Mr. Bell, while on his travels through Russia, had one of these birds given him, which he kept in a room, having fixed up a sharpened stick for him in the wall; and on turning small birds loose in the room, the Butcher-bird instantly caught them by the throat in such a manner as soon to suffocate them; and then stuck them on the stick, pulling them on with bill and claws; and so served as many as were turned loose, one after another, on the same stick.*

* Edwards, v. vii., p. 231.

SPECIES II. *LANIUS CAROLINENSIS*.*

LOGGERHEAD SHRIKE.

[Plate XXII. Fig. 5.]

THIS species has a considerable resemblance to the Great American Shrike. It differs, however, from that bird in size, being a full inch shorter, and in color, being much darker on the upper parts; and in having the frontlet black. It also inhabits the warmer parts of the United States; while the Great American Shrike is chiefly confined to the northern regions, and seldom extends to the south of Virginia.

This species inhabits the rice plantations of Carolina and Georgia, where it is protected for its usefulness in destroying mice. It sits, for hours together, on the fence, beside the stacks of rice, watching like a cat; and as soon as it perceives a mouse, darts on it like a Hawk. It also feeds on crickets and grasshoppers. Its note, in March, resembled the clear creaking of a sign board, in windy weather. It builds its nest, as I was informed, generally in a detached bush, much like that of the Mocking-bird; but as the spring was not then sufficiently advanced, I had no opportunity of seeing its eggs. It is generally known by the name of the *Loggerhead*.

This species is nine inches long and thirteen in extent; the color above is cinereous or dark ash; scapulars, and line over the eye, whitish; wings black, with a small spot of white at the base of the primaries, and tipped with white; a stripe of black passes along the front through each eye, half way down the side of the neck; eye dark hazel, sunk below the eyebrow; tail cuneiform, the four middle feathers wholly black, the four exterior ones on each side tipped more and more with white to the outer one which is nearly all white; whole lower parts white, and in some specimens, both of males and females, marked with transverse lines of very pale brown; bill and legs black.

The female is considerably darker both above and below, but the black does not reach so high on the front; it is also rather less in size.

* *Lanius Ludovicianus*, LINN., which name must be adopted. In Buffon, pl. enl. 528, there is a figure of a young bird.—Synonymes: *La Pie-griesche de la Louisiane*, BRISS. 2, p. 162.—LATR. Ind. Orn. p. 69.

GENUS V. PSITTACUS. PARROT.

P. CAROLINENSIS.

CAROLINA PARROT.

[Plate XXVI. Fig. 1.]

LINN. *Syst.* I., p. 97, ed. 10.—CATESBY, I., 11.—LATHAM, I., 227.—*Arct. Zool.* 242, No. 132. Ibid. 133.*

OF one hundred and sixty-eight kinds of Parrots, enumerated by European writers as inhabiting the various regions of the globe, this is the only species found native within the territory of the United States. The vast and luxuriant tracts lying within the torrid zone, seem to be the favorite residence of those noisy, numerous, and richly-plumaged tribes. The Count de Buffon has, indeed, circumscribed the whole genus of Parrots to a space not extending more than twenty-three degrees on each side of the equator; but later discoveries have shown this statement to be incorrect; as these birds have been found on our continent as far south as the Straits of Magellan, and even on the remote shores of Van Diemen's Land, in Terra Australasia. The species now under consideration is also known to inhabit the interior of Louisiana, and the shores of the Mississippi and Ohio, and their tributary waters, even beyond the Illinois river, to the neighborhood of Lake Michigan, in lat. 42° North; and, contrary to the generally received opinion, is chiefly *resident* in all these places. Eastward, however, of the great range of the Alleghany, it is seldom seen farther north than the State of Maryland; though straggling parties have been occasionally observed among the valleys of the Juniata; and according to some, even twenty-five miles to the northwest of Albany, in the State of New York.† But such accidental visits furnish no certain criteria by which to judge of their usual extent of range; those aerial voyagers, as well as others who navigate the deep, being subject to be cast away, by the violence of the elements, on distant shores and unknown countries.

From these circumstances of the northern residence of this species, we might be justified in concluding it to be a very hardy bird, more capable of sustaining cold than nine-tenths of its tribe; and so I believe

* We add the following synonyms: *La Perruche de la Caroline*, BRISS. 4, p. 350.—*Orange-headed Parrot*, LATH. *Gen. Syn.* I., p. 304. *Ind. Orn.* p. 93.

† BARTON's Fragments, &c., p. 6, Introd.

it is; having myself seen them, in the month of February, along the banks of the Ohio, in a snow storm, flying about like pigeons, and in full cry.

The preference, however, which this bird gives to the western countries, lying in the same parallel of latitude with those eastward of the Alleghany mountains, which it rarely or never visits, is worthy of remark; and has been adduced, by different writers, as a proof of the superior mildness of climate in the former to that of the latter. But there are other reasons for this partiality equally powerful, though hitherto overlooked; namely, certain peculiar features of country, to which these birds are particularly and strongly attached; these are, low, rich, alluvial bottoms, along the borders of creeks, covered with a gigantic growth of sycamore trees or button-wood—deep and almost impenetrable swamps, where the vast and towering cypress lift their still more majestic heads; and those singular salines, or, as they are usually called, *licks*, so generally interspersed over that country, and which are regularly and eagerly visited by the Paroquets. A still greater inducement is the superior abundance of their favorite fruits. That food which the Paroquet prefers to all others, is the seeds of the cockle-burr, a plant rarely found in the lower parts of Pennsylvania, or New York; but which unfortunately grows in too great abundance along the shores of the Ohio and Mississippi, so much so as to render the wool of those sheep, that pasture where it most abounds, scarcely worth the cleaning, covering them with one solid mass of burrs, wrought up and imbedded into the fleece, to the great annoyance of this valuable animal. The seeds of the cypress-tree and hackberry, as well as beech-nuts, are also great favorites with these birds; the two former of which are not commonly found in Pennsylvania, and the latter by no means so general or so productive. Here then are several powerful reasons, more dependent on soil than climate, for the preference given by these birds to the luxuriant regions of the west. Pennsylvania, indeed, and also Maryland, abound with excellent apple orchards, on the ripe fruit of which the Paroquets occasionally feed. But I have my doubts whether their depredations in the orchard be not as much the result of wanton play and mischief, as regard for the seeds of the fruit, which they are supposed to be in pursuit of. I have known a flock of these birds alight on an apple tree, and have myself seen them twist off the fruit, one by one, strewing it in every direction around the tree, without observing that any of the depredators descended to pick them up. To a Paroquet which I wounded, and kept for some considerable time, I very often offered apples, which it uniformly rejected; but burrs, or beech-nuts never. To another very beautiful one, which I brought from New Orleans, and which is now sitting in the room beside me, I have frequently offered this fruit, and also the seeds separately, which I never knew it to taste.

Their local attachments also prove that food more than climate determines their choice of country. For even in the states of Ohio, Kentucky, and the Mississippi territory, unless in the neighborhood of such places as have been described, it is rare to see them. The inhabitants of Lexington, as many of them assured me, scarcely ever observe them in that quarter. In passing from that place to Nashville, a distance of two hundred miles, I neither heard nor saw any, but at a place called Madison's Lick. In passing on, I next met with them on the banks and rich flats of the Tennessee river; after this I saw no more till I reached Bayo St. Pierre, a distance of several hundred miles; from all which circumstances, I think we cannot, from the residences of these birds, establish with propriety, any correct standard by which to judge of the comparative temperatures of different climates.

In descending the river Ohio, by myself, in the month of February, I met with the first flock of Paroquets at the mouth of the Little Scioto. I had been informed, by an old and respectable inhabitant of Marietta, that they were sometimes, though rarely, seen there. I observed flocks of them, afterwards, at the mouth of the Great and Little Miami, and in the neighborhood of numerous creeks, that discharge themselves into the Ohio. At Big-Bone Lick, thirty miles above the mouth of Kentucky river, I saw them in great numbers. They came screaming through the woods in the morning, about an hour after sunrise, to drink the salt water, of which they, as well as the pigeons, are remarkably fond. When they alighted on the ground, it appeared, at a distance, as if covered with a carpet of the richest green, orange and yellow. They afterwards settled, in one body, on a neighboring tree, which stood detached from any other, covering almost every twig of it, and the sun shining strongly on their gay and glossy plumage, produced a very beautiful and splendid appearance. Here I had an opportunity of observing some very particular traits of their character. Having shot down a number, some of which were only wounded, the whole flock swept repeatedly around their prostrate companions, and again settled on a low tree, within twenty yards of the spot where I stood. At each successive discharge, though showers of them fell, yet the affection of the survivors seemed rather to increase; for after a few circuits around the place, they again alighted near me, looking down on their slaughtered companions, with such manifest symptoms of sympathy and concern, as entirely disarmed me. I could not but take notice of the remarkable contrast between their elegant manner of flight, and their lame and crawling gait among the branches. They fly very much like the Wild Pigeon, in close, compact bodies, and with great rapidity, making a loud and outrageous screaming, not unlike that of the Red-headed Woodpecker. Their flight is sometimes in a direct line; but most usually circuitous, making a great variety of elegant and easy serpentine meanders, as if for pleasure.

They are particularly attached to the large sycamores, in the hollow of the trunks, and branches of which, they generally roost, thirty or forty, and sometimes more, entering at the same hole. Here they cling close to the sides of the tree, holding fast by the claws, and also by the bills. They appear to be fond of sleep, and often retire to their holes during the day, probably to take their regular *siesta*. They are extremely sociable with and fond of each other, often scratching each other's heads and necks, and always at night nestling as close as possible to each other, preferring, at that time, a perpendicular position, supported by their bill and claws. In the fall, when their favorite cockle-burrs are ripe, they swarm along the *coast*, or high grounds of the Mississippi, above New Orleans, for a great extent. At such times they are killed and eaten by many of the inhabitants; though I confess I think their flesh very indifferent. I have several times dined on it from necessity in the woods; but found it merely passable, with all the sauce of a keen appetite to recommend it.*

A very general opinion prevails, that the brains and intestines of the Carolina Paroquet are a sure and fatal poison to cats. I had determined, when at Big-Bone, to put this to the test of experiment; and for that purpose collected the brains and bowels of more than a dozen of them. But after close search Mrs. Puss was not to be found, being engaged perhaps on more agreeable business. I left the medicine with Mr. Colquhoun's agent, to administer it by the first opportunity, and write me the result; but I have never yet heard from him. A respectable lady near the town of Natchez, and on whose word I can rely, assured me, that she herself had made the experiment, and that, whatever might be the cause, the cat had actually died either on that or the succeeding day. A French planter near Bayo Fourche pretended to account to me for this effect, by positively asserting that the seeds of the cockle-burrs, on which the Paroquets so eagerly feed, were deleterious to cats; and thus their death was produced by eating the intestines of the bird. These matters might easily have been ascertained on the spot, which, however, a combination of trifling circumstances prevented me from doing. I several times carried a dose of the first description in my pocket, till it became insufferable, without meeting with a suitable *patient*, on whom, like other professional gentlemen, I might conveniently make a fair experiment.

I was equally unsuccessful in my endeavors to discover the time of

* Had our author been provided with proper apparatus to cook these birds, and suitable condiments, he would, doubtless, have been of a different opinion. Mr. T. Peale and myself, when in East Florida, where this species is found in great numbers, thought them excellent eating. In Florida the Paroquets are migratory. We saw the first flock of them, at the Cowford, on the river St. John, on the first of March: the greater part of them were males.—*G. Ord.*

incubation or manner of building among these birds. All agreed that they breed in hollow trees; and several affirmed to me that they had seen their nests. Some said they carried in no materials; others that they did. Some made the eggs white; others speckled. One man assured me that he had cut down a large beech-tree, which was hollow, and in which he found the broken fragments of upwards of twenty Paroquets' eggs, which were of a greenish yellow color. The nests, though destroyed in their texture by the falling of the tree, appeared, he said, to be formed of small twigs glued to each other, and to the side of the tree, in the manner of the Chimney Swallow. He added, that if it were the proper season, he could point out to me the weed from which they procured the gluey matter. From all these contradictory accounts, nothing certain can be deduced, except that they build in companies, in hollow trees. That they commence incubation late in summer, or very early in the spring, I think highly probable, from the numerous dissections I made in the months of March, April, May and June; and the great variety which I found in the color of the plumage of the head and neck, of both sexes, during the two former of these months, convinces me, that the young birds do not receive their full colors until the early part of the succeeding summer.

While Parrots and Paroquets, from foreign countries, abound in almost every street of our large cities, and become such great favorites, no attention seems to have been paid to our own, which in elegance of figure, and beauty of plumage, is certainly superior to many of them. It wants, indeed, that disposition for perpetual screaming and chattering, that renders some of the former, pests, not only to their keepers, but to the whole neighborhood in which they reside. It is alike docile and sociable; soon becomes perfectly familiar; and until equal pains be taken in its instruction, it is unfair to conclude it incapable of equal improvement in the language of man.

As so little has hitherto been known of the disposition and manners of this species, the reader will not, I hope, be displeased at my detailing some of these, in the history of a particular favorite, my sole companion in many a lonesome day's march, and of which the figure in the plate is a faithful resemblance.

Anxious to try the effects of education on one of those which I procured at Big-Bone Lick, and which was but slightly wounded in the wing, I fixed up a place for it in the stern of my boat, and presented it with some cockle-burrs, which it freely fed on in less than an hour after being on board. The intermediate time, between eating and sleeping, was occupied in gnawing the sticks that formed its place of confinement, in order to make a practicable breach, which it repeatedly effected. When I abandoned the river, and travelled by land, I wrapped it up closely in a silk handkerchief, tying it tightly around, and carried it in

my pocket. When I stopped for refreshment, I unbound my prisoner, and gave it its allowance, which it generally despatched with great dexterity, unhusking the seeds from the burr in a twinkling; in doing which it always employed its left foot to hold the burr, as did several others that I kept for some time. I began to think that this might be peculiar to the whole tribe, and that the whole were, if I may use the expression, *left-footed*; but by shooting a number afterwards, while engaged in eating mulberries, I found sometimes the left, sometimes the right foot, stained with the fruit; the other always clean; from which, and the constant practice of those I kept, it appears, that like the human species in the use of their hands, they do not prefer one or the other indiscriminately, but are either *left* or *right-footed*. But to return to my prisoner. In recommitting it to "durance vile," we generally had a quarrel; during which it frequently paid me in kind for the wound I had inflicted, and for depriving it of liberty, by cutting and almost disabling several of my fingers with its sharp and powerful bill. The path through the wilderness, between Nashville and Natchez, is in some places bad beyond description. There are dangerous creeks to swim, miles of morass to struggle through, rendered almost as gloomy as night by a prodigious growth of timber, and an underwood of canes and other evergreens; while the descent into these sluggish streams is often ten or fifteen feet perpendicular into a bed of deep clay. In some of the worst of these places, where I had, as it were, to fight my way through, the Paroquet frequently escaped from my pocket, obliging me to dismount and pursue it through the worst of the morass, before I could regain it. On these occasions I was several times tempted to abandon it; but I persisted in bringing it along. When at night I encamped in the woods, I placed it on the baggage beside me, where it usually sat, with great composure, dozing and gazing at the fire till morning. In this manner I carried it upwards of a thousand miles in my pocket, where it was exposed all day to the jolting of the horse, but regularly liberated at meal times, and in the evening, at which it always expressed great satisfaction. In passing through the Chickasaw and Choctaw nations, the Indians, wherever I stopped to feed, collected around me, men, women and children, laughing and seeming wonderfully amused with the novelty of my companion. The Chickasaws called it in their language "*Kelinky*;" but when they heard me call it Poll, they soon repeated the name; and wherever I chanced to stop among these people, we soon became familiar with each other through the medium of Poll. On arriving at Mr. Dunbar's, below Natchez, I procured a cage, and placed it under the piazza, where by its call it soon attracted the passing flocks, such is the attachment they have for each other. Numerous parties frequently alighted on the trees immediately above, keeping up a constant conversation with the prisoner

One of these I wounded slightly in the wing, and the pleasure Poll expressed on meeting with this new companion was really amusing. She crept close up to it, as it hung on the side of the cage, chattered to it in a low tone of voice, as if sympathizing in its misfortune, scratched about its head and neck with her bill; and both at night nestled as close as possible to each other, sometimes Poll's head being thrust among the plumage of the other. On the death of this companion, she appeared restless and inconsolable for several days. On reaching New Orleans, I placed a looking-glass beside the place where she usually sat, and the instant she perceived her image, all her former fondness seemed to return, so that she could scarcely absent herself from it a moment. It was evident that she was completely deceived. Always when evening drew on, and often during the day, she laid her head close to that of the image in the glass, and began to doze with great composure and satisfaction. In this short space she had learnt to know her name; to answer and come when called on; to climb up my clothes, sit on my shoulder, and eat from my mouth. I took her with me to sea, determined to persevere in her education; but, destined to another fate, poor Poll, having one morning about day-break wrought her way through the cage, while I was asleep, instantly flew overboard, and perished in the gulf of Mexico.

The Carolina, or Illinois Parrot (for it has been described under both these appellations), is thirteen inches long, and twenty-one in extent; forehead and cheeks orange red; beyond this, for an inch and a half, down and round the neck, a rich and pure yellow; shoulder and bend of the wing also edged with rich orange red; the general color of the rest of the plumage is a bright yellowish silky green, with light blue reflections, lightest and most diluted with yellow below; greater wing-coverts, and roots of the primaries, yellow, slightly tinged with green; interior webs of the primaries deep dusky purple, almost black, exterior ones bluish green; tail long, cuneiform, consisting of twelve feathers, the exterior one only half the length, the others increasing to the middle ones, which are streaked along the middle with light blue; shafts of all the larger feathers, and of most part of the green plumage, black; knees and vent orange yellow; feet a pale whitish flesh color; claws black; bill white, or slightly tinged with pale cream; iris of the eye hazel; round the eye is a small space, without feathers, covered with a whitish skin; nostrils placed in an elevated membrane at the base of the bill, and covered with feathers; chin wholly bare of feathers, but concealed by those descending on each side; from each side of the palate hangs a lobe or skin of a blackish color; tongue thick and fleshy; inside of the upper mandible, near the point, grooved exactly like a file, that it may hold with more security.

The female differs very little in her colors and markings from the

male. After examining numerous specimens, the following appear to be the principal differences. The yellow on the neck of the female does not descend quite so far; the interior vanes of the primaries are brownish instead of black; and the orange red on the bend and edges of the wing is considerably narrower; in other respects the colors and markings are nearly the same.

The young birds of the preceding year, of both sexes, are generally destitute of the yellow on the head and neck, until about the beginning or middle of March, having those parts wholly green, except the front and cheeks, which are orange red in them, as in the full grown birds. Towards the middle of March, the yellow begins to appear in detached feathers, interspersed among the green, varying in different individuals. In some which I killed about the last of that month, only a few green feathers remained among the yellow; and these were fast assuming the yellow tint; for the color changes *without change of plumage*.

What is called by Europeans the Illinois Parrot (*Psittacus pertinax*), is evidently the young bird in its imperfect colors. Whether the present species be found as far south as Brazil, as these writers pretend, I am unable to say; but from the great extent of country in which I have myself killed and examined these birds, I am satisfied that the present species, now described, is the only one inhabiting the United States.

Since the foregoing was written, I have had an opportunity, by the death of a tame Carolina Paroquet, to ascertain the fact of the poisonous effects of their head and intestines on cats. Having shut up a cat and her two kittens (the latter only a few days old), in a room with the head, neck, and whole intestines of the Paroquet, I found on the next morning the whole eaten, except a small part of the bill. The cat exhibited no symptom of sickness; and at this moment, three days after the experiment has been made, she and her kittens are in their usual health. Still, however, the effect might have been different, had the daily food of the bird been cockle burrs, instead of Indian corn.

Note.—From Mr. T. Peale, who was attached to the expedition commanded by Major Long, I learn, that during the time the party wintered at Engineer Cantonment, nearly eight hundred miles up the Missouri, they observed this species, at various periods, from the beginning of December, until the middle of February, although the thermometer (Fahrenheit) once sunk as low as 22° below zero. Mr. Peale is of opinion that the Paroquet migrates rather in quest of food, than in consequence of the cold. Being, like the Wild Pigeon, a bird of vigorous wing, and of a roving disposition, a journey of a few hundred miles can occasion it but a very little trouble.—*G. Ord.*

GENUS XIII. CORVUS. CROW.

SPECIES I. *C. CORAX*.

RAVEN.

[Plate LXXV. Fig. 3.]

GMEL. *Syst.* I., p. 364.—*Ind. Orn.* p. 150.—*Le Corbeau*, BRISS. 2, p. 8, et var.—
BUFF. *Ois.* 3, p. 13. *Pl. enl.* 495.—TEM. *Man. d'Orn.* p. 107.—*Raven*, LATH.
Gen. Syn. I., p. 367. *Id. sup.* p. 74.—PENN. *Brit. Zool.* No. 74. *Arct. Zool.* No.
134.—SHAW, *Gen. Zool.* 7, p. 341.—BEWICK, I., p. 100.—Low, *Fauna Orcadensis*,
p. 45.

A KNOWLEDGE of this celebrated bird has been handed down to us from the earliest ages; and its history is almost coeval with that of man. In the best and most ancient of all books, we learn, that at the end of forty days, after the great flood had covered the earth, Noah, wishing to ascertain whether or not the waters had abated, sent forth a Raven, which did not return into the ark.* This is the first notice that is taken of this species. Though the Raven was declared unclean by the law of Moses, yet we are informed, that when the prophet Elijah provoked the enmity of Ahab, by prophesying against him, and hid himself by the brook Cherith, the Ravens were appointed by Heaven to bring him his daily food.† The color of the Raven gave rise to a similitude in one of the most beautiful of eclogues, which has been perpetuated in all subsequent ages, and which is not less pleasing for being trite or proverbial. The favorite of the royal lover of Jerusalem, in the enthusiasm of affection, thus describes the object of her adoration, in reply to the following question:

“What is thy beloved more than another beloved, O thou fairest among women?” “My beloved is white and ruddy, the chiefest among ten thousand. His head is as the most fine gold, *his locks are bushy, and black as a Raven*?”‡

The above mentioned circumstances taken into consideration, one should suppose that the lot of the subject of this chapter would have been of a different complexion from what history and tradition inform us is the fact. But in every country, we are told, the Raven is con-

* Genesis, viii. 7.

† 1 Kings, xvii. 5, 6.

‡ Song of Solomon, v. 9, 10, 11.

sidered an ominous bird, whose croakings foretell approaching evil; and many a crooked beldam has given interpretation to these oracles, of a nature to infuse terror into a whole community. Hence this ill-fated bird, immemorially, has been the innocent subject of vulgar obloquy and detestation.

Augury, or the art of foretelling future events by the flight, cries, or motions of birds, descended from the Chaldeans to the Greeks, thence to the Etrurians, and from them it was transmitted to the Romans.* The crafty legislators of these celebrated nations, from a deep knowledge of human nature, made superstition a principal feature of their religious ceremonies; well knowing that it required a more than ordinary policy to govern a multitude, ever liable to the fatal influences of passion; and who, without some timely restraints, would burst forth like a torrent, whose course is marked by wide-spreading desolation. Hence, to the purposes of polity the Raven was made subservient; and the Romans having consecrated it to Apollo, as to the god of divination, its flight was observed with the greatest solemnity; and its tones and inflections of voice were noted with a precision, which intimated a belief in its infallible prescience.

But the ancients have not been the only people infected with this species of superstition; the moderns, even though favored with the light of Christianity, have exhibited as much folly, through the impious curiosity of prying into futurity, as the Romans themselves. It is true that modern nations have not instituted their sacred colleges or sacerdotal orders, for the purposes of divination; but in all countries there have been self-constituted augurs, whose interpretations of omens have been received with religious respect by the credulous multitude. Even at this moment, in some parts of the world, if a Raven alight on a village church, the whole fraternity is in an uproar; and Heaven is importuned, in all the ardor of devotion, to avert the impending calamity.

The poets have taken advantage of this weakness of human nature, and in their hands the Raven is a fit instrument of terror. Shakspeare puts the following malediction into the mouth of his Caliban:

* That the science of augury is very ancient, we learn from the Hebrew lawgiver, who prohibits it, as well as every other kind of divination. Deut. chap. xviii. The Romans derived their knowledge of augury chiefly from the Tuscans or Etrurians, who practised it in the earliest times. This art was known in Italy before the time of Romulus, since that prince did not commence the building of Rome till he had taken the auguries. The successors of Romulus, from a conviction of the usefulness of the science, and at the same time not to render it contemptible by becoming too familiar, employed the most skilful augurs from Etruria, to introduce the practice of it into their religious ceremonies. And by a decree of the senate, some of the youth of the best families in Rome were annually sent into Tuscany, to be instructed in this art. Vide Ciceron. de Divin. Also Calmet, and the Abbé Banier.

"As wicked dew, as e'er my mother brushed,
With *Raven's* feather, from unwholesome fen,
Drop on you both!"*

The ferocious wife of Macbeth, on being advised of the approach of Duncan, whose death she had conspired, thus exclaims :

"The *Raven* himself is hoarse,
That croaks the fatal entrance of Duncan,
Under my battlements!"†

The Moor of Venice says :

"It comes o'er my memory,
As doth the *Raven* o'er the infected house,
Boding to all."‡

The last quotation alludes to the supposed habit of this bird's flying over those houses which contain the sick, whose dissolution is at hand, and thereby announced. Thus Marlowe, in the *Jew of Malta*, as cited by Malone :

"The sad presaging *Raven* tolls
The sick man's passport in her hollow beak,
And in the shadow of the silent night
Doth shake contagion from her sable wing."

But it is the province of philosophy to dispel those illusions which bewilder the mind, by pointing out the simple truths which Nature has been at no pains to conceal, but which the folly of mankind has shrouded in all the obscurity of mystery.

The Raven is a general inhabitant of the United States, but is more common in the interior. On the lakes, and particularly in the neighborhood of the Falls of the river Niagara, they are numerous ; and it is a remarkable fact, that where they so abound, the Common Crow, *C. corone*, seldom makes its appearance ; being intimidated, it is conjectured, by the superior size and strength of the former, or by an antipathy which the two species manifest towards each other. This I had an opportunity of observing myself, in a journey during the months of August and September, along the lakes Erie and Ontario. The Ravens were seen every day, prowling about in search of the dead fish, which the waves are continually casting ashore, and which afford them an abundance of a favorite food ; but I did not see or hear a single Crow within several miles of the lakes ; and but very few through the whole of the Genesee country. -

* *Tempest*, act i., scene 2.

† Act i., scene 5.

‡ *Othello*, act iv., scene 1.

The food of this species is dead animal matter of all kinds, not excepting the most putrid carrion, which it devours in common with the Vultures; worms, grubs, reptiles and shell-fish, the last of which, in the manner of the Crow, it drops from a considerable height in the air, on the rocks, in order to break the shells; it is fond of birds' eggs, and is often observed sneaking around the farm-house, in search of the eggs of the domestic poultry, which it sucks with eagerness; it is likewise charged with destroying young ducks and chickens, and lambs which have been yeaned in a sickly state. The Raven, it is said, follows the hunters of deer, for the purpose of falling heir to the offal,* and the huntsmen are obliged to cover their game, when it is left in the woods, with their hunting frocks, to protect it from this thievish connoisseur, who, if he have an opportunity, will attack the region of the kidneys, and mangle the saddle without ceremony.

Buffon says that "the Raven *plucks out the eyes of Buffaloes*, and then, *fixing on the back, it tears off the flesh deliberately*; and what renders the ferocity more detestable, it is not incited by the cravings of hunger, but by the appetite for carnage; for it can subsist on fruits, seed of all kinds, and indeed may be considered as an omnivorous animal." This is mere fable, and of a piece with many other absurdities of the same agreeable, but fanciful author.

This species is found almost all over the habitable globe. We trace it in the north from Norway to Greenland, and hear of it in Kamtschatka. It is common everywhere in Russia and Siberia, except within the Arctic circle;† and all through Europe. Kolben enumerates the Raven among the birds of the Cape of Good Hope;‡ De Grandpré represents it as numerous in Bengal, where they are said to be protected for their usefulness;§ and the unfortunate La Pérouse saw them at *Baie de Chastries*, on the east coast of Tartary; likewise at *Port des Francois*; 58° 37' north latitude, and 139° 50' west longitude; and at Monterey Bay, North California.|| The English circumnavigators met with them at Nootka Sound;¶ and at the Sandwich Islands, two being seen in the village of Kakooa; also at Owhyhee, and supposed to be adored there, as they were called Eatoos.** Our intrepid American travellers, under the command of Lewis and Clark, shortly after they embarked on the river Columbia, saw abundance of Ravens, which were attracted thither

* This is the case in those parts of the United States where the deer are hunted without dogs: where these are employed, they are generally rewarded with the offal.

† Latham.

‡ Medley's Kolben, vol. ii., p. 136.

§ Voy. in the Indian Ocean, p. 148.

|| Voy. par I. F. G. De la Pérouse, ii., p. 129, 203, 443.

¶ Cook's last Voy. ii., p. 236. Am. ed.

** Idem, iii., p. 329.

by the immense quantity of dead salmon which lined the shores.* They are found at all seasons at Hudson's Bay;† are frequent in Mexico;‡ and it is more than probable that they inhabit the whole continent of America.

The Raven measures, from the tip of the bill to the end of the tail, twenty-six inches, and is four feet in extent; the bill is large and strong, of a shining black, notched near the tip, and three inches long, the setaceous feathers which cover the nostrils extend half its length; the eyes are black; the general color is a deep glossy black, with steel-blue reflections; the lower parts are less glossy; the tail is rounded, and extends about two inches beyond the wings; the legs are two inches and a half in length, and, with the feet, are strong and black; the claws are long.

This bird is said to attain to a great age; and its plumage to be subject to change, from the influence of years and of climate. It is found in Iceland and Greenland entirely white.

The Raven was the constant attendant of Lewis and Clark's party, in their long and toilsome journey. During the winter, at Fort Mandan, they were observed in immense numbers, notwithstanding the cold was so excessive, that, on the seventeenth of December, 1804, the thermometer of Fahrenheit stood at 45° below 0.

Like the Crow, this species may be easily domesticated, and in that state would afford amusement, by its familiarity, frolics and sagacity. But such noisy and mischievous pets, in common with Parrots and Monkeys, are not held in high estimation in this quarter of the globe; and are generally overlooked for those universal favorites, which either gratify the eye by the neatness or brilliancy of their plumage, or delight the ear by the simplicity or variety of their song.

* Gass's Journal, p. 153.

† Charlevoix. Kalm. Hearne's Journey.

‡ Fernandez.

SPECIES II. *CORVUS CORONE*.*

C R O W.

[Plate XXXV. Fig. 3.]

THIS is perhaps the most generally known, and least beloved, of all our land birds; having neither melody of song, nor beauty of plumage, nor excellence of flesh, nor civility of manners, to recommend him: on the contrary, he is branded as a thief and a plunderer; a kind of black-coated vagabond, who hovers over the fields of the industrious, fattening on their labors; and by his voracity often blasting their expectations. Hated as he is by the farmer, watched and persecuted by almost every bearer of a gun, who all triumph in his destruction, had not Heaven bestowed on him intelligence, and sagacity far beyond common, there is reason to believe that the whole tribe (in these parts at least) would long ago have ceased to exist.

The Crow is a constant attendant on agriculture, and a general inhabitant of the cultivated parts of North America. In the interior of the forest he is more rare, unless during the season of breeding. He is particularly attached to low flat corn countries, lying in the neighborhood of the sea or of large rivers; and more numerous in the northern than southern states, where Vultures abound, and with whom the Crows are unable to contend. A strong antipathy, it is also said, prevails between the Crow and the Raven, insomuch that, where the latter are numerous, the former rarely resides. Many of the first settlers of the Genesee country informed me, that, for a long time, Ravens were numerous with them, but no Crows; and even now the latter are seldom observed in that country. In travelling from Nashville to Natchez, a distance of four hundred and seventy miles, I saw few or no Crows, but Ravens frequently, and Vultures in great numbers.

The usual breeding time of the Crow, in Pennsylvania, is in March, April, and May, during which season they are dispersed over the woods in pairs, and roost in the neighborhood of the tree they have selected for their nest. About the middle of March they begin to build, generally choosing a high tree; though I have also known them prefer a middle sized cedar. One of their nests, now before me, is formed ex-

* We give the following synonyms: *Corvus corone*, LINN. *Syst.* ed. 10, I., p. 105.—GMEL. *Syst.* 1, p. 365.—LATH. *Ind. Orn.* p. 151.—TEMN. *Man. d'Orn.* I., p. 108.

ternally of sticks, wet moss, thin bark mixed with mossy earth, and lined with large quantities of horse hair, to the amount of more than half a pound, some cow hair, and some wool, forming a very soft and elastic bed. The eggs are four, of a pale green color, marked with numerous specks and blotches of olive.

During this interesting season, the male is extremely watchful, making frequent excursions of half a mile or so in circuit, to reconnoitre; and the instant he observes a person approaching, he gives the alarm, when both male and female retire to a distance, till the intruder has gone past. He also regularly carries food to his mate while she is sitting; occasionally relieves her; and when she returns, again resigns up his post. At this time also, as well as until the young are able to fly, they preserve uncommon silence, that their retreat may not be suspected.

It is in the month of May, and until the middle of June, that the Crow is most destructive to the corn-fields, digging up the newly planted grains of maize, pulling up by the roots those that have begun to vegetate, and thus frequently obliging the farmer to replant, or lose the benefit of the soil; and this sometimes twice, and even three times, occasioning a considerable additional expense and inequality of harvest. No mercy is now shown him. The myriads of worms, moles, mice, caterpillars, grubs and beetles, which he has destroyed, are altogether overlooked on these occasions. Detected in robbing the hens' nests, pulling up the corn, and killing the young chickens, he is considered as an outlaw, and sentenced to destruction. But the great difficulty is, how to put this sentence in execution. In vain the gunner skulks along the hedges and fences; his faithful sentinels, planted on some commanding point, raise the alarm, and disappoint vengeance of its object. The coast again clear, he returns once more in silence to finish the repast he had begun. Sometimes he approaches the farm-house by stealth, in search of young chickens, which he is in the habit of snatching off, when he can elude the vigilance of the mother hen, who often proves too formidable for him. A few days ago a Crow was observed eagerly attempting to seize some young chickens in an orchard, near the room where I write; but these clustering close round the hen, she resolutely defended them, drove the Crow into an apple-tree, whither she instantly pursued him with such spirit and intrepidity, that he was glad to make a speedy retreat, and abandon his design.

The Crow himself sometimes falls a prey to the superior strength and rapacity of the Great Owl, whose weapons of offence are by far the more formidable of the two.*

* "A few years ago," says an obliging correspondent, "I resided on the banks of the Hudson, about seven miles from the city of New York. Not far from the place of my residence was a pretty thick wood or swamp, in which great numbers of Crows, who used to cross the river from the opposite shore, were accustomed to

Towards the close of summer, the parent Crows, with their new families, forsaking their solitary lodgings, collect together, as if by previous agreement, when evening approaches. About an hour before sunset, they are first observed, flying somewhat in Indian file, in one direction, at a short height above the tops of the trees, silent and steady, keeping the general curvature of the ground, continuing to pass sometimes till after sunset, so that the whole line of march would extend for many miles. This circumstance, so familiar and picturesque, has not been overlooked by the poets, in their descriptions of a rural evening. Burns, in a single line, has finely sketched it

“The black’ning train of Crows to their repose.”

The most noted Crow-roost with which I am acquainted is near Newcastle, on an island in the Delaware. It is there known by the name of the *Pea-Patch*, and is a low flat alluvial spot, of a few acres,

roost. Returning homeward one afternoon from a shooting excursion, I had occasion to pass through this swamp. It was near sunset, and troops of Crows were flying in all directions over my head. While engaged in observing their flight, and endeavoring to select from among them an object to shoot at, my ears were suddenly assailed by the distressful cries of a Crow, who was evidently struggling under the talons of a merciless and rapacious enemy. I hastened to the spot whence the sound proceeded, and to my great surprise, found a Crow lying on the ground, just expiring, and, seated upon the body of the yet warm and bleeding quarry, a *large brown Owl*, who was beginning to make a meal of the unfortunate robber of corn-fields. Perceiving my approach, he forsook his prey with evident reluctance, and flew into a tree at a little distance, where he sat watching all my movements, alternately regarding, with longing eyes, the victim he had been forced to leave, and darting at me no very friendly looks, that seemed to reproach me for having deprived him of his expected regale. I confess that the scene before me was altogether novel and surprising. I am but little conversant with natural history; but I had always understood, that the depredations of the Owl were confined to the smaller birds, and animals of the lesser kind; such as mice, young rabbits, &c; and that he obtained his prey rather by fraud and stratagem, than by open rapacity and violence. I was the more confirmed in this belief, from the recollection of a passage in *Macbeth*, which now forcibly recurred to my memory. The courtiers of King Duncan are recounting to each other the various prodigies that preceded his death, and one of them relates to his wondering auditors, that

‘An Eagle, tow’ring in his pride of place,
Was, by a *mousing Owl*, hawked at and killed.’

But to resume my relation. That the Owl was the murderer of the unfortunate Crow, there could be no doubt. No other bird of prey was in sight; I had not fired my gun since I entered the wood; nor heard any one else shoot: besides, the unequivocal situation in which I found the parties, would have been sufficient before any ‘twelve good men and true,’ or jury of Crows, to have convicted him of his guilt. It is proper to add, that I avenged the death of the hapless Crow, by a well-aimed shot at the felonious robber, that extended him breathless on the ground.”

elevated but a little above high-water mark, and covered with a thick growth of reeds. This appears to be the grand rendezvous, or headquarters of the greater part of the Crows within forty or fifty miles of the spot. It is entirely destitute of trees, the Crows alighting and nestling among the reeds, which by these means are broken down and matted together. The noise created by those multitudes, both in their evening assembly, and re-ascension in the morning; and the depredations they commit in the immediate neighborhood of this great resort, are almost incredible. Whole fields of corn are sometimes laid waste, by thousands alighting on it at once, with appetites whetted by the fast of the preceding night; and the utmost vigilance is unavailing to prevent, at least, a partial destruction of this their favorite grain. Like the stragglers of an immense, undisciplined, and rapacious army, they spread themselves over the fields, to plunder and destroy wherever they alight. It is here that the character of the Crow is universally execrated; and to say to the man who has lost his crop of corn by these birds, that Crows are exceedingly useful for destroying vermin, would be as consolatory as to tell him who had just lost his house and furniture by the flames, that fires are excellent for destroying bugs.

The strong attachment of the Crows to this spot may be illustrated by the following circumstance. Some years ago, a sudden and violent north-east storm came on during the night, and the tide rising to an uncommon height inundated the whole island. The darkness of the night, the suddenness and violence of the storm, and the incessant torrents of rain that fell, it is supposed, so intimidated the Crows, that they did not attempt to escape, and almost all perished. Thousands of them were next day seen floating in the river; and the wind shifting to the north-west, drove their dead bodies to the Jersey side, where for miles they blackened the whole shore.

This disaster, however, seems long ago to have been repaired; for they now congregate on the *Pea-Patch* in as immense multitudes as ever.*

So universal is the hatred to Crows, that few states, either here or

* The following is extracted from a late number of a newspaper printed in that neighborhood: "The farmers of Red Lion Hundred held a meeting at the village of St. Georges, in the state of Delaware, on Monday, the 6th inst., to receive proposals of John Deputy, on a plan for banishing or destroying the Crows. Mr. Deputy's plan, being heard and considered, was approved, and a committee appointed to contract with him, and to procure the necessary funds to carry the same into effect. Mr. Deputy proposes that for five hundred dollars he will engage to kill or banish the Crows from their roost on the Pea-Patch, and give security to return the money on failure.

"The sum of five hundred dollars being thus required, the committee beg leave to address the farmers and others of Newcastle county, and elsewhere, on the subject."

in Europe, have neglected to offer rewards for their destruction. In the United States they have been repeatedly ranked in our laws with the wolves, the panthers, foxes and squirrels, and a proportionable premium offered for their heads, to be paid by any justice of the peace to whom they are delivered. On all these accounts various modes have been invented for capturing them. They have been taken in clap-nets commonly used for taking pigeons; two or three live Crows being previously procured as decoys, or as they are called *Stool-crows*. Corn has been steeped in a strong decoction of hellebore, which when eaten by them produces giddiness, and finally, it is said, death. Pieces of paper, formed into the shape of a hollow cone, besmeared within with birdlime, and a grain or two of corn dropped on the bottom, have also been adopted. Numbers of these being placed on the ground, where corn has been planted, the Crows attempting to reach the grains are instantly hoodwinked, fly directly upwards to a great height; but generally descend near the spot whence they rose, and are easily taken. The reeds of their roosting places are sometimes set on fire during a dark night, and the gunners having previously posted themselves around, the Crows rise in great uproar, and amidst the general consternation, by the light of the burnings, hundreds of them are shot down.

Crows have been employed to catch Crows, by the following stratagem. A live crow is pinned by the wings down to the ground on his back, by means of two sharp, forked sticks. Thus situated, his cries are loud and incessant, particularly if any other Crows are within view. These sweeping down about him, are instantly grappled by the prostrate prisoner, by the same instinctive impulse that urges a drowning person to grasp at everything within his reach. Having disengaged the game from his clutches, the trap is again ready for another experiment; and by pinning down each captive, successively, as soon as taken, in a short time you will probably have a large flock screaming above you, in concert with the outrageous prisoners below. Many farmers, however, are content with hanging up the skins, or dead carcasses, of Crows, in their corn-fields by way of terrorem; others depend altogether on the gun, keeping one of their people supplied with ammunition, and constantly on the lookout. In hard winters, the Crows suffer severely, so that they have been observed to fall down in the fields, and on the roads, exhausted with cold and hunger. In one of these winters, and during a long-continued deep snow, more than six hundred Crows were shot on the carcass of a dead horse, which was placed at a proper distance from the stable, from a hole of which the discharges were made. The premiums awarded for these, with the price paid for the quills, produced nearly as much as the original value of the horse, besides, as the man himself assured me, saving feathers sufficient for filling a bed.

The Crow is easily raised and domesticated; and it is only when thus

rendered unsuspicious of, and placed on terms of familiarity with, man, that the true traits of his genius, and native disposition, fully develop themselves. In this state he soon learns to distinguish all the members of the family; flies towards the gate, screaming at the approach of a stranger; learns to open the door by alighting on the latch; attends regularly at the stated hours of dinner and breakfast; which he appears punctually to recollect; is extremely noisy and loquacious; imitates the sound of various words, pretty distinctly; is a great thief and boarder of curiosities, hiding in holes, corners and crevices, every loose article he can carry off, particularly small pieces of metal, corn, bread, and food of all kinds; is fond of the society of his master, and will know him even after a long absence; of which the following is a remarkable instance, and may be relied on as a fact. A very worthy gentleman, now living in the Genesee country, but who, at the time alluded to, resided on the Delaware, a few miles below Easton, had raised a Crow, with whose tricks and society he used frequently to amuse himself. This Crow lived long in the family; but at length disappeared, having, as was then supposed, been shot by some vagrant gunner, or destroyed by accident. About eleven months after this, as the gentleman, one morning, in company with several others, was standing on the river shore, a number of Crows happening to pass by, one of them left the flock, and flying directly towards the company, alighted on the gentleman's shoulder, and began to gabble away with great volubility, as one long-absent friend naturally enough does on meeting with another. On recovering from his surprise, the gentleman instantly recognised his old acquaintance; and endeavored by several civil but sly manœuvres to lay hold of him; but the Crow, not altogether relishing quite so much familiarity, having now had a taste of the sweets of liberty, cautiously eluded all his attempts; and suddenly glancing his eye on his distant companions, mounted in the air after them, soon overtook and mingled with them, and was never afterward seen to return.

The habits of the Crow, in his native state, are so generally known, as to require little further illustration. His watchfulness, and jealous sagacity in distinguishing a person with a gun, are notorious to every one. In spring, when he makes his appearance among the groves and low thickets, the whole feathered songsters are instantly alarmed, well knowing the depredations and murders he commits on their nests, eggs and young. Few of them, however, have the courage to attack him, except the King-bird, who on these occasions teases and pursues him from place to place, diving on his back while high in the air, and harassing him for a great distance. A single pair of these noble-spirited birds, whose nest was built near, have been known to protect a whole field of corn from the depredations of the Crows, not permitting one to approach it.

The Crow is eighteen inches and a half long, and three feet two inches in extent; the general color is a shining glossy blue black, with purplish reflections; the throat and lower parts are less glossy; the bill and legs a shining black, the former two inches and a quarter long, very strong, and covered at the base with thick tufts of recumbent feathers; the wings, when shut, reach within an inch and a quarter of the tip of the tail, which is rounded; fourth primary the longest; secondaries scalloped at the ends, and minutely pointed, by the prolongation of the shaft; iris dark hazel.

The above description agrees so nearly with the European species as to satisfy me that they are the same; though the voice of ours is said to be less harsh, not unlike the barking of a small spaniel; the pointedness of the ends of the tail feathers, mentioned by European naturalists, and occasioned by the extension of the shafts, is rarely observed in the present species, though always very observable in the secondaries.

The female differs from the male in being more dull colored, and rather deficient in the glossy and purplish tints and reflections. The difference, however, is not great.

Besides grain, insects, and carrion, they feed on frogs, tadpoles, small fish, lizards, and shell-fish; with the latter they frequently mount to a great height, dropping them on the rocks below, and descending after them to pick up the contents. The same habit is observable in the Gull, the Raven, and Sea-side Crow. Many other aquatic insects, as well as marine plants, furnish them with food; which accounts for their being so generally found, and so numerous, on the sea-shore, and along the banks of our large rivers.

SPECIES III. *CORVUS COLUMBIANUS*.

CLARK'S CROW.

[Plate XX. Fig. 2.]

THIS species resembles, a little, the Jackdaw of Europe (*Corvus monedula*); but is remarkable for its formidable claws, which approach to those of the *Falco* genus; and would seem to intimate, that its food consists of living animals, for whose destruction these weapons must be necessary. In conversation with different individuals of Lewis and Clark's party, I understood that this bird inhabits the shores of the Columbia, and the adjacent country, in great numbers, frequenting the rivers and seashore, probably feeding on fish; and that it has all the gregarious and noisy habits of the European species, several of the party supposing it to be the same.

The figure in the plate was drawn with particular care, after a minute examination and measurement of the only preserved skin that was saved.

This bird measures thirteen inches in length; the wings, the two middle tail feathers, and the interior vanes of the next (except at the tip) are black, glossed with steel blue; all the secondaries, except the three next the body, are white for an inch at their extremities, forming a large spot of white on that part, when the wing is shut; the tail is rounded; yet the two middle feathers are somewhat shorter than those adjoining; all the rest are pure white, except as already described; the general color of the head, neck, and body, above and below, is a light silky drab, darkening almost to a dove color on the breast and belly; vent white; claws black, large, and hooked, particularly the middle and hind-claws; legs also black; bill a dark horn color; iris of the eye unknown.

In the state of Georgia, and several parts of the Mississippi Territory, I discovered a Crow,* not hitherto taken notice of by naturalists, rather larger than the present species; but much resembling it in the form and length of its wings, in its tail, and particularly its claws. This bird is a constant attendant along the borders of streams and stagnating ponds, feeding on small fish and lizards, which I have many times seen him seize as he swept along the surface. A well preserved specimen of this bird was presented to Mr. Peale. It is highly probable that, with these external resemblances, the habits of both may be nearly alike.

* The Crow above alluded to is the Fish-Crow. See the next article.

SPECIES IV. *CORVUS OSSIFRAGUS*.

F I S H - C R O W.

[Plate XXXVII. Fig. 2.]

THIS is another roving inhabitant of our coasts, ponds, and river shores; though a much less distinguished one than the preceding,* this being the first time, as far as I can learn, that he has ever been introduced to the notice of the world.

I first met with this species on the coast of Georgia, and observed that they regularly retired to the interior as evening approached, and came down to the shores of the river Savannah, by the first appearance of day. Their voice first attracted my notice, being very different from that of the common Crow, more hoarse and guttural, uttered as if something stuck in their throat, and varied into several modulations as they flew along. Their manner of flying was also unlike the others, as they frequently sailed about, without flapping the wings, something in the manner of the Raven; and I soon perceived that their food, and their mode of procuring it, were also both different; their favorite haunts being about the banks of the river, along which they usually sailed, dexterously snatching up, with their claws, dead fish, or other garbage, that floated on the surface. At the country seat of Stephen Elliot, Esq., near the Ogeechee river, I took notice of these Crows frequently perching on the backs of the cattle, like the Magpie and Jackdaw of Britain; but never mingling with the common Crows; and differing from them in this particular, that the latter generally retire to the shore, the reeds and marshes, to roost; while the Fish-Crow, always a little before sunset, seeks the interior high woods to repose in.

In my journey through the Mississippi Territory, last year, I resided for some time at the seat of my hospitable friend, Dr. Samuel Brown, a few miles from Fort Adams, on the Mississippi. In my various excursions there among the lofty fragrance-breathing magnolia woods, and magnificent scenery, that adorn the luxuriant face of nature in those southern regions, this species of Crow frequently made its appearance, distinguished by the same voice and habits it had in Georgia. There is in many of the ponds there, a singular kind of lizard, that swims about with its head above the surface, making a loud sound, not unlike the

* The Fish-Hawk, figured in the same plate, and which immediately precedes the Fish-Crow, in the text of the original edition.

harsh jarring of a door. These the Crow now before us would frequently seize with his claws, as he flew along the surface, and retire to the summit of a dead tree to enjoy his repast. Here I also observed him a pretty constant attendant at the pens, where the cows were usually milked, and much less shy, less suspicious, and more solitary, than the common Crow. In the county of Cape May, New Jersey, I again met with these Crows, particularly along Egg Harbor river; and latterly on the Schuylkill and Delaware, near Philadelphia, during the season of shad and herring fishing, viz., from the middle of March till the beginning of June. A small party of these Crows, during this period, regularly passed Bartram's gardens, to the high woods, to roost, every evening a little before sunset, and as regularly returned at or before sunrise every morning, directing their course towards the river. The fishermen along these rivers also inform me, that they have particularly remarked this Crow, by his croaking voice, and his fondness for fish; almost always hovering about their fishing places, to glean up the refuse. Of their manner of breeding I can only say, that they separate into pairs, and build in tall trees, near the sea or river shore; one of their nests having been built this season in a piece of tall woods, near Mr. Beasley's, at Great Egg Harbor. The male of this nest furnished me with the figure in the plate, which was drawn of full size, and afterwards reduced to one-third the size of life, to correspond with the rest of the figures in the same plate. From the circumstance of six or seven being usually seen here together, in the month of July, it is probable that they have at least four or five young at a time.

I can find no description of this species by any former writer. Mr. Bartram mentions a bird of this tribe, which he calls the *Great Seaside Crow*; but the present species is considerably inferior in size to the common Crow; and having myself seen and examined it in so many, and remotely situated, parts of the country, and found it in all these places alike, I have no hesitation in pronouncing it to be a new and hitherto undescribed species.

The Fish-Crow is sixteen inches long, and thirty-three in extent; black all over, with reflections of steel-blue and purple; the chin is bare of feathers around the base of the lower mandible;* upper mandible notched near the tip, the edges of both turned inwards about the middle; eye very small, placed near the corner of the mouth, and of a dark hazel color; recumbent hairs or bristles large and long; ear feathers prominent; first primary little more than half the length of the second, fourth

* This must have been an accidental circumstance, as I have seen specimens, the chin of which was entirely covered. In the month of April, I shot a fine male, on the Delaware, *seventeen* inches long, thirty-three broad. The chin covered. This species is greatly infested with lice, insomuch that when one handles them, one gets covered with these disagreeable vermin.—*G. Ord.*

the longest; wings, when shut, reach within two inches of the tip of the tail; tail rounded, and seven inches long from its insertion; thighs very long; legs stout; claws sharp, long and hooked, hind one the largest, all jet black. Male and female much alike.

I would beg leave to recommend to the watchful farmers of the United States, that in their honest indignation against the common Crow, they would spare the present species, and not shower destruction, indiscriminately, on their black friends and enemies; at least on those who *sometimes* plunder them, and those who never molest or injure their property.

SPECIES V. *CORVUS PICA*.

MAGPIE.

[Plate XXXV. Fig. 2.]

Arct. Zool. No. 136.—*LATH. Syn.* I., 392.—*BUFF.* III., 85. *Pl. Enl.* 488.*

THIS bird is much better known in Europe than in this country, where it has not been long discovered; although it is now found to inhabit a wide extent of territory, and in great numbers. The drawing was taken from a very beautiful specimen, sent from the Mandan nation, on the Missouri, to Mr. Jefferson, and by that gentleman to Mr. Peale of this city, in whose Museum it lived for several months, and where I had an opportunity of examining it. On carefully comparing it with the European Magpie in the same collection, no material difference could be perceived. The figure in the plate is reduced to exactly half the size of life.

This bird unites in its character courage and cunning, turbulency, and rapacity. Not inelegantly formed, and distinguished by gay as well as splendid plumage, he has long been noted in those countries where he commonly resides, and his habits and manners are there familiarly known. He is particularly pernicious to plantations of young oaks, tearing up the acorns; and also to birds, destroying great numbers of their eggs and young, even young chickens, partridges, grouse, and pheasants. It is perhaps on this last account that the whole vengeance of the game laws has lately been let loose upon him, in some parts of

* We add the following synonymes:—*Corvus pica*, LINN. *Syst.* ed. 10, I., p. 106.—GMEL. *Syst.* I., p. 373.—LATH. *Ind. Orn.* p. 162.—*La Pie*, BRISS. *Orn.* vol. II., p. 35.—TEMN. *Man. d' Orn.* I., p. 113.

Britain; as appears by accounts from that quarter, where premiums, it is said, are offered for his head, as an arch poacher; and penalties inflicted on all those who permit him to breed on their premises. Under the lash of such rigorous persecution, a few years will probably exterminate the whole tribe from the island. He is also destructive to gardens and orchards; is noisy and restless, almost constantly flying from place to place; alights on the backs of the cattle, to rid them of the larvæ that fester in the skin; is content with carrion when nothing better offers; eats various kinds of vegetables, and devours greedily grain, worms, and insects of almost every description. When domesticated, he is easily taught to imitate the human voice, and to articulate words pretty distinctly; has all the pilfering habits of his tribe, filling every chink, nook, and crevice with whatever he can carry off; is subject to the epilepsy, or some similar disorder; and is, on the whole, a crafty, restless, and noisy bird.

He generally selects a tall tree adjoining the farm-house, for his nest, which is placed among the highest branches; this is large, composed outwardly of sticks, roots, turf, and dry weeds, and well lined with wool, cow hair, and feathers; the whole is surrounded, roofed, and barricaded with thorns, leaving only a narrow entrance. The eggs are usually five, of a greenish color, marked with numerous black or dusky spots. In the northern parts of Europe, he migrates at the commencement of winter.

In this country the Magpie was first taken notice of at the factories or trading houses on Hudson's Bay, where the Indians used sometimes to bring it in, and gave it the name of *Heart-bird*, for what reason is uncertain. It appears, however, to be rather rare in that quarter. These circumstances are taken notice of by Mr. Pennant and other British naturalists.

In 1804, the exploring party under the command of Lewis and Clark, on their route to the Pacific Ocean across the continent, first met with the Magpie somewhere near the great bend of the Missouri, and found that the number of these birds increased as they advanced. Here also the Blue Jay disappeared; as if the territorial boundaries and jurisdiction of these two noisy and voracious families of the same tribe had been mutually agreed on, and distinctly settled. But the Magpie was found to be far more daring than the Jay, dashing into their very tents, and carrying off the meat from the dishes. One of the hunters, who accompanied the expedition, informed me that they frequently attended him while he was engaged in skinning and cleaning the carcass of the deer, bear, or buffalo he had killed, often seizing the meat that hung within a foot or two of his head. On the shores of the Kooskoos-ke river, on the west side of the great range of the Rocky Mountains, they were found to be equally numerous.

It is highly probable that those vast plains or prairies, abounding with game and cattle, frequently killed for the mere hides, tallow, or even marrow-bones, may be one great inducement for the residency of these birds, so fond of flesh and carrion. Even the rigorous severity of winter in the high regions along the head waters of Rio du Nord, the Arkansas and Red river, seems insufficient to force them from those favorite haunts; though it appears to increase their natural voracity to a very uncommon degree. Pike relates, that, in the month of December, in the neighborhood of the North Mountain, N. lat. 41° , W. long. 34° , Reaumur's thermometer standing at 17° below 0, these birds were seen in great numbers. "Our horses," says he, "were obliged to scrape the snow away to obtain their miserable pittance; and to increase their misfortunes, the poor animals were attacked by the Magpies, who, attracted by the scent of their sore backs, alighted on them, and in defiance of their wincing and kicking, picked many places quite raw. The difficulty of procuring food rendering those birds so bold as to light on our men's arms, and eat meat out of their hands."*

The Magpie is eighteen inches in length; the head, neck, upper part of the breast and back, are a deep velvety black; primaries brownish black, streaked along their inner vanes with white; secondaries rich purplish blue; greater coverts green blue; scapulars, lower part of the breast and belly, white; thighs and vent black; tail long, the two exterior feathers scarcely half the length of the longest, the others increasing to the two middle ones, which taper towards their extremities. The color of this part of the plumage is very splendid, being glossy green, dashed with blue and bright purple; this last color bounds the green; nostrils covered with a thick tuft of recumbent hairs, as are also the sides of the mouth; bill, legs and feet, glossy black. The female differs only in the less brilliancy of her plumage.

* Pike's Journal, p. 170.

SPECIES VI. *CORVUS CRISTATUS*.

BLUE JAY.

[Plate I. Fig. 1.]

LINN, *Syst.* I., p. 106, No. 8, ed. 10.—*Garrulus canadensis cæruleus*, BRISS. II., p. 55.—*Pica glandaria cristata*, KLEIN, p. 61, 3.—*Le Geai bleu de l'Amerique Septentrionale*, BUFF. III., p. 120. *Pl. Enl.* 529.—*Blue Jay*, CATESB. *Car.* I., 15.—EDW. 239.—*Arct. Zool.* II., No. 138.—LATH. *Syn.* I., p. 386, 20.—BARTRAM, p. 290.

THIS elegant bird, which, as far as I can learn, is peculiar to North America, is distinguished as a kind of beau among the feathered tenants of our woods, by the brilliancy of his dress; and like most other coxcombs, makes himself still more conspicuous by his loquacity, and the oddness of his tones and gestures. The Jay measures eleven inches in length; the head is ornamented with a crest of light blue or purple feathers, which he can elevate or depress at pleasure; a narrow line of black runs along the frontlet, rising on each side higher than the eye, but not passing *over* it, as Catesby has represented, and as Pennant and many others have described it; back and upper part of the neck a fine light purple, in which the blue predominates; a collar of black proceeding from the hind-head, passes with a graceful curve down each side of the neck, to the upper part of the breast, where it forms a crescent; chin, cheeks, throat and belly, white, the three former slightly tinged with blue; greater wing coverts a rich blue; exterior sides of the primaries light blue, those of the secondaries a deep purple, except the three feathers next the body, which are of a splendid light blue; all these, except the primaries, are beautifully barred with crescents of black, and tipped with white; the interior sides of the wing feathers are dusky black; tail long and cuneiform, composed of twelve feathers of a glossy light blue, marked at half inches with transverse curves of black, each feather being tipped with white, except the two middle ones, which deepen into a dark purple at the extremities. Breast and sides under the wings a dirty white, faintly stained with purple; inside of the mouth, the tongue, bill, legs, and claws, black; iris of the eye hazel.

The Blue Jay is an almost universal inhabitant of the woods, frequenting the thickest settlements, as well as the deepest recesses of the forest, where his squalling voice often alarms the deer, to the disappointment and mortification of the hunter; one of whom informed me, that he made it a point, in summer, to kill every Jay he could meet

with. In the charming season of spring, when every thicket pours forth harmony, the part performed by the Jay always catches the ear. He appears to be, among his fellow-musicians what the trumpeter is in a band, some of his notes having no distant resemblance to the tones of that instrument. These he has the faculty of changing through a great variety of modulations, according to the particular humor he happens to be in. When disposed for ridicule, there is scarce a bird whose peculiarities of song he cannot tune his notes to. When engaged in the blandishments of love, they resemble the soft chatterings of a duck; and while he nestles among the thick branches of the cedar, are scarce heard at a few paces distant; but no sooner does he discover your approach, than he sets up a sudden and vehement outcry, flying off, and screaming with all his might, as if he called the whole feathered tribes of the neighborhood to witness some outrageous usage he had received. When he hops undisturbed among the high branches of the oak and hickory, they become soft and musical; and his calls of the female, a stranger would readily mistake for the repeated creakings of an ungreased wheelbarrow. All these he accompanies with various nods, jerks, and other gesticulations, for which the whole tribe of Jays are so remarkable, that, with some other peculiarities, they might have very well justified the great Swedish naturalist in forming them into a separate genus by themselves.

The Blue Jay builds a large nest, frequently in the cedar, sometimes in an apple-tree, lines it with dry fibrous roots, and lays five eggs, of a dull olive, spotted with brown. The male is particularly careful of not being heard near the place, making his visits as silently and secretly as possible. His favorite food is chestnuts, acorns, and Indian corn. He occasionally feeds on bugs and caterpillars, and sometimes pays a plundering visit to the orchard, cherry-rows, and potato-patch; and has been known, in times of scarcity, to venture into the barn, through openings between the weather-boards. In these cases he is extremely active and silent, and if surprised in the fact makes his escape with precipitation, but without noise, as if conscious of his criminality.

Of all birds he is the most bitter enemy to the Owl. No sooner has he discovered the retreat of one of these, than he summons the whole feathered fraternity to his assistance, who surround the glimmering *solitaire*, and attack him from all sides, raising such a shout, as may be heard, in a still day, more than half a mile off. When in my hunting excursions I have passed near this scene of tumult, I have imagined to myself that I heard the insulting party venting their respective charges with all the virulency of a Billingsgate mob; the owl, meanwhile, returning every compliment with a broad goggling stare. The war becomes, louder and louder, and the Owl, at length forced to betake

himself to flight, is followed by the whole train of his persecutors, until driven beyond the boundaries of their jurisdiction.

But the Blue Jay himself is not guiltless of similar depredations with the Owl, and becomes, in his turn, the very tyrant he detested, when he sneaks through the woods, as he frequently does, and among the thickets and hedge-rows, plundering every nest he can find of its eggs, tearing up the callow young by piecemeal, and spreading alarm and sorrow around him. The cries of the distressed parents soon bring together a number of interested spectators (for birds, in such circumstances, seem truly to sympathize with each other), and he is sometimes attacked with such spirit, as to be under the necessity of making a speedy retreat.

He will sometimes assault small birds, with the intention of killing and devouring them; an instance of which I myself once witnessed, over a piece of woods, near the borders of Schuylkill; where I saw him engaged for more than five minutes pursuing what I took to be a species of *Motacilla*, wheeling, darting, and doubling in the air, and at last, to my great satisfaction, got disappointed, by the escape of his intended prey. In times of great extremity, when his hoard or magazine is frozen up, buried in snow, or perhaps exhausted, he becomes very voracious, and will make a meal of whatever carrion or other animal substance comes in the way; and has been found regaling himself on the bowels of a Robin, in less than five minutes after it was shot.

There are, however, individual exceptions to this general character for plunder and outrage, a proneness for which is probably often occasioned by the wants and irritations of necessity. A Blue Jay, which I have kept for some time, and with whom I am on terms of familiarity, is in reality a very notable example of mildness of disposition, and sociability of manners. An accident in the woods first put me in possession of this bird, while in full plumage, and in high health and spirits; I carried him home with me, and put him into a cage already occupied by a Gold-winged Woodpecker, where he was saluted with such rudeness, and received such a drubbing from the lord of the manor, for entering his premises, that, to save his life, I was obliged to take him out again. I then put him into another cage, where the only tenant was a female Orchard Oriole. She also put on airs of alarm, as if she considered herself endangered and insulted by the intrusion; the Jay, meanwhile, sat mute and motionless on the bottom of the cage, either dubious of his own situation, or willing to allow time for the fears of his neighbor to subside. Accordingly, in a few minutes, after displaying various threatening gestures (like some of those Indians we read of, in their first interviews with the whites), she began to make her approaches, but with great circumspection, and readiness for retreat. Seeing, however, the Jay begin to pick up some crumbs of broken chestnuts, in a

humble and peaceable way, she also descended, and began to do the same; but at the slightest motion of her new guest, wheeled round and put herself on the defensive. All this ceremonious jealousy vanished before evening, and they now roost together, feed, and play together, in perfect harmony and good humor. When the Jay goes to drink, his messmate very impudently jumps into the water to wash herself, throwing the water in showers over her companion, who bears it all patiently; venturing now and then to take a sip between every splash, without betraying the smallest token of irritation. On the contrary, he seems to take pleasure in his little fellow-prisoner, allowing her to pick (which she does very gently) about his whiskers, and to clean his claws from the minute fragments of chestnuts which happen to adhere to them. This attachment on the one part, and mild condescension on the other, may, perhaps, be partly the effect of mutual misfortunes, which are found not only to knit mankind, but many species of inferior animals, more closely together; and shows that the disposition of the Blue Jay may be humanized, and rendered susceptible of affectionate impressions, even for those birds, which, in a state of nature, he would have no hesitation in making a meal of.

He is not only bold and vociferous, but possesses a considerable talent for mimicry, and seems to enjoy great satisfaction in mocking and teasing other birds, particularly the little hawk (*F. sparverius*), imitating his cry wherever he sees him, and squealing out as if caught; this soon brings a number of his own tribe around him, who all join in the frolic, darting about the hawk, and feigning the cries of a bird sorely wounded, and already under the clutches of its devourer; while others lie concealed in bushes, ready to second their associates in the attack. But this ludicrous farce often terminates tragically. The hawk singling out one of the most insolent and provoking, sweeps upon him in an unguarded moment, and offers him up a sacrifice to his hunger and resentment. In an instant the tune is changed; all their buffoonery vanishes, and loud and incessant screams proclaim their disaster.

Wherever the Jay has had the advantage of education from man, he has not only shown himself an apt scholar, but his suavity of manners seems equalled only by his art and contrivances; though it must be confessed that his itch for thieving keeps pace with all his other acquirements. Dr. Mease, on the authority of Colonel Postell, of South Carolina, informs me, that a Blue Jay, which was brought up in the family of the latter gentleman, had all the tricks and loquacity of a parrot; pilfered everything he could conveniently carry off, and hid them in holes and crevices; answered to his name with great sociability, when called on; could articulate a number of words pretty distinctly; and when he heard any uncommon noise or loud talking, seemed impatient to contribute his share to the general festivity (as he probably

thought it), by a display of all the oratorical powers he was possessed of.

Mr. Bartram relates an instance of the Jay's sagacity, worthy of remark. "Having caught a Jay in the winter season," says he, "I turned him loose in the green-house, and fed him with corn (zea, maize), the heart of which they are very fond of. This grain being ripe and hard, the bird at first found a difficulty in breaking it, as it would start from his bill when he struck it. After looking about, and as if considering for a moment, he picked up his grain, carried and placed it close up in a corner on the shelf, between the wall and a plant-box, where being confined on three sides he soon effected his purpose, and continued afterwards to make use of this same practical expedient. The Jay," continues this judicious observer, "is one of the most useful agents in the economy of nature, for disseminating forest trees, and other ruciferous and hard-seeded vegetables on which they feed. Their chief employment during the autumnal season is foraging to supply their winter stores. In performing this necessary duty, they drop abundance of seed in their flight over fields, hedges, and by-fences, where they alight to deposit them in the post holes, &c. It is remarkable what numbers of young trees rise up in fields and pastures after a wet winter and spring. These birds alone are capable, in a few years' time, to replant all the cleared lands."*

The Blue Jays seldom associate in any considerable numbers, except in the months of September and October, when they hover about in scattered parties of from forty to fifty, visiting the oaks, in search of their favorite acorns. At this season they are less shy than usual; and keep chattering to each other in a variety of strange and querulous notes. I have counted fifty-three, but never more, at one time; and these generally following each other in straggling irregularity from one range of woods to another. Yet we are told by the learned Dr. Latham, and his statement has been copied into many respectable European publications, that the Blue Jays of North America "often unite into flocks of twenty thousand at least! which alighting on a field of ten or twelve acres, soon lay waste the whole."† If this were really so, these birds would justly deserve the character he gives them, of being the most destructive species in America. But I will venture the assertion, that the tribe *Oriolus phæniceus*, or red-winged Blackbirds, in the environs of the river Delaware alone, devour and destroy more Indian corn than the whole Blue Jays of North America. As to their assembling in such immense multitudes, it may be sufficient to observe, that a flock of

* Letter of Mr. William Bartram to the Author.

† Synopsis of Birds, vol. i., p. 387. See also Encyclopedia Britannica, art. Corvus.

Blue Jays of twenty thousand, would be as extraordinary an appearance in America, as the same number of Magpies or Cuckoos would be in Britain.

It has been frequently said, that numbers of birds are common to the United States and Europe; at present, however, I am not certain of many. Comparing the best descriptions and delineations of the European ones with those of our native birds, said to be of the same species, either the former are very erroneous, or the difference of plumage and habits in the latter justify us in considering a great proportion of them to be really distinct species. Be this however as it may, the Blue Jay appears to belong exclusively to North America. I cannot find it mentioned by any writer or traveller among the birds of Guiana, Brazil, or any other part of South America. It is equally unknown in Africa. In Europe, and even in the eastern parts of Asia, it is never seen in its wild state. To ascertain the exact limits of its native regions would be difficult. These, it is highly probable, will be found to be bounded by the extremities of the temperate zone.* Dr. Latham has indeed asserted, that the Blue Jay of America is not found farther north than the town of Albany.* This, however, is a mistake. They are common in the Eastern States, and are mentioned by Dr. Belknap in his enumeration of the birds of New Hampshire.† They are also natives of Newfoundland. I myself have seen them in Upper Canada. Blue Jays and Yellow-birds were found by Mr. McKenzie, when on his journey across the continent, at the head waters of the Unjigah, or Peace river, in N. lat. 54°, W. long. 121°, on the west side of the great range of Stony Mountains.‡ Steller, who in 1741 accompanied Captain Behring in his expedition for the discovery of the north-west coast of America, and who wrote the journal of the voyage, relates, that he himself went on shore near Cape St. Elias, in N. lat. 58° 28' W., long. 141° 46', according to his estimation, where he observed several species of birds *not known in Siberia*; and one, in particular, described by Catesby under the name of the Blue Jay.§ Mr. William Bartram informs me, that they are numerous in the peninsula of Florida, and that he also found them at Natchez, on the Mississippi. Captains Lewis and Clark, and their intrepid companions, in their memorable expedition across the continent of North America to the Pacific Ocean, continued to see Blue Jays for six hundred miles up the Missouri.|| From these accounts it follows, that this species occupies, generally or par-

* Synopsis, vol. i., p. 387.

† Hist. N. Hamp. vol. iii., p. 163.

‡ Voyage from Montreal, &c., p. 216, quarto, Lond. 1801.

§ See Steller's Journal apud Pallas.

|| This fact I had from Captain Lewis.

tially, an extent of country stretching upwards of seventy degrees from east to west, and more than thirty degrees from north to south; though, from local circumstances, there may be intermediate tracts in this immense range, which they seldom visit.

SPECIES VII. *CORVUS CANADENSIS*.

CANADA JAY.

[Plate XXI. Fig. 1.]

LINN. *Syst.* 158.—*Cinereous Crow*, *Arct. Zool.* p. 248, No. 137.—LATHAM, I., 389.—*Le Geay Brun de Canada*, BRISSON, II., 54.—BUFFON, III. 117.

WERE I to adopt the theoretical reasoning of a celebrated French naturalist, I might pronounce this bird to be a debased descendant from the common Blue Jay of the United States, degenerated by the influence of the bleak and chilling regions of Canada; or perhaps a *spurious* production, between the Blue Jay and the Cat-bird; or what would be more congenial to the Count's ideas, trace its degradation to the circumstance of migrating, some thousand years ago, from the genial shores of Europe, where nothing like degeneracy or degradation ever takes place among any of God's creatures. I shall, however, on the present occasion, content myself with stating a few particulars better supported by facts, and more consonant to the plain homespun of common sense.

This species inhabits the country extending from Hudson's Bay, and probably farther north, to the river St. Lawrence; also in winter the inland parts of the district of Maine, and northern tracts of the states of Vermont and New York. When the season is very severe, with deep snow, they sometimes advance farther south; but generally return northward as the weather becomes more mild.

The character given of this bird by the people of those parts of the country where it inhabits, is, that it feeds on black moss, worms, and even flesh;—when near habitations or tents, pilfers everything it can come at—is bold, and comes even into the tent to eat meat out of the dishes; watches the hunters while baiting their traps for martens, and devours the bait as soon as their backs are turned; that they breed early in spring, building their nests on pine trees, forming them of sticks and grass, and lay blue eggs; that they have two, rarely three young at a time, which are at first quite black, and continue so for some time; that they fly in pairs; lay up hoards of berries in hollow trees; are seldom seen in January, unless near houses; are a kind of Mock-bird; and when caught pine away, though their appetite never fails them;

notwithstanding all which ingenuity and good qualities, they are, as we are informed, detested by the natives."*

The only individuals of this species that I ever met with in the United States were on the shores of the Mohawk, a short way above the Little Falls. It was about the last of November, and the ground deeply covered with snow. There were three or four in company, or within a small distance of each other, flitting leisurely along the road side, keeping up a kind of low chattering with one another, and seemed nowise apprehensive at my approach. I soon secured the whole; from the best of which the drawing in the plate was carefully made. On dissection I found their stomachs occupied by a few spiders and the aureliæ of some insects. I could perceive no difference between the plumage of the male and female.

The Canada Jay is eleven inches long, and fifteen in extent; back, wings, and tail, a dull leaden gray, the latter long, cuneiform, and tipped with dirty white; interior vanes of the wings brown, and also partly tipped with white; plumage of the head loose and prominent; the forehead and feathers covering the nostril, as well as the whole lower parts, a dirty brownish white, which also passes round the bottom of the neck like a collar; part of the crown and hind-head black; bill and legs also black; eye dark hazel. The whole plumage on the back is long, loose, unwebbed, and in great abundance, as if to protect it from the rigors of the regions it inhabits.

A gentleman of observation, who resided for many years near the North river, not far from Hudson, in the state of New York, informs me, that he has particularly observed this bird to arrive there at the commencement of cold weather—he has often remarked its solitary habits; it seemed to seek the most unfrequented shaded retreats, keeping almost constantly on the ground, yet would sometimes, towards evening, mount to the top of a small tree, and repeat its notes (which a little resemble those of the Baltimore) for a quarter of an hour together; and this it generally did immediately before snow, or falling weather.

* HEARNE'S Journey, p. 405.

GENUS XV. ORIOLUS.*

SPECIES I. ORIOLUS BALTIMORUS.†

BALTIMORE ORIOLE.

[Plate I. Fig. 3—Male.]

LINN. *Syst.* 1, p. 162, 10.—*Icterus minor*, BRISS. II., p. 109, pl. 12, fig. 1.—*Le Baltimore*, BUFF. III., p. 231. *Pl. Enl.* 506, fig. 1.—*Baltimore Bird*, CATESB. *Cur.* 1, 48.—*Arct. Zool.* II., p. 142.—LATH. *Syn.* II., p. 432, 19.—BARTRAM, p. 290.

THIS is a bird of passage, arriving in Pennsylvania, from the south, about the beginning of May, and departing towards the latter end of August, or beginning of September. From the singularity of its colors, the construction of its nest, and its preferring the apple-trees, weeping-willows, walnut, and tulip-trees, adjoining the farm-house, to build on, it is generally known, and, as usual, honored with a variety of names, such as Hang-nest, Hanging-bird, Golden Robin, Fire-bird (from the bright orange seen through the green leaves, resembling a flash of fire), &c., but more generally the Baltimore-bird, so named, as Catesby informs us, from its colors, which are black and orange, being those of the arms or livery of Lord Baltimore, formerly proprietary of Maryland.

The Baltimore Oriole is seven inches in length; bill almost straight, strong, tapering to a sharp point, black, and sometimes lead colored above, the lower mandible light blue towards the base. Head, throat, upper part of the back and wings, black; lower part of the back, rump, and whole under parts, a bright orange, deepening into vermilion on the breast; the black on the shoulders is also divided by a band of orange; exterior edges of the greater wing-coverts, as well as the edges of the secondaries, and part of those of the primaries, white; the tail feathers, under the coverts, orange; the two middle ones thence to the tips are black, the next five, on each side, black near the coverts, and orange toward the extremities, so disposed, that when the tail is expanded, and the coverts removed, the black appears in the form of a pyramid, supported on an arch of orange, tail slightly forked, the ex-

* This genus has been variously divided by modern ornithologists. Temminck has separated it into four sections, viz.: *Cassicus*, *Quiscalia*, *Icterus*, and *Emberizoides*. The two species described by Wilson, belong to the third section, *Icterus*.

† *Coracias Galbula*, LINN. *Syst.* ed. 10, tom. I., 108.—*Oriolus Baltimore*, LATH. *Ind. Orn.* 180.

terior feather on each side a quarter of an inch shorter than the others ; legs and feet light blue or lead color ; iris of the eye hazel.

The female has the head, throat, upper part of the neck and back, of a dull black, each feather being skirted with olive yellow, lower part of the back, rump, upper tail-coverts, and whole lower parts, orange yellow, but much duller than that of the male ; the whole wing feathers are of a deep dirty brown, except the quills, which are exteriorly edged, and the greater wing-coverts, and next superior row, which are broadly tipped, with a dull yellowish white ; tail olive yellow ; in some specimens the two middle feathers have been found partly black, in others wholly so ; the black on the throat does not descend so far as in the male, is of a lighter tinge, and more irregular ; bill, legs, and claws light blue.

Buffon, and Latham, have both described the male of the bastard Baltimore (*Oriolus spurius*), as the female Baltimore. Pennant has committed the same mistake ; and all the ornithologists of Europe, with whose works I am acquainted, who have undertaken to figure and describe these birds, have mistaken the proper males and females, and confounded the two species together in a very confused and extraordinary manner, for which indeed we ought to pardon them, on account of their distance from the native residence of these birds, and the strange alterations of color which the latter are subject to.

This obscurity I have endeavored to clear up in the present volume of this work, Pl. IV., by exhibiting the male and female of the *Oriolus spurius* in their different changes of dress, as well as in their perfect plumage ; and by introducing representations of the eggs of both, have, I hope, put the identity of these two species beyond all further dispute or ambiguity.

Almost the whole genus of Orioles belong to America, and with a few exceptions build pensile nests. Few of them, however, equal the Baltimore in the construction of these receptacles for their young, and in giving them, in such a superior degree, convenience, warmth, and security. For these purposes he generally fixes on the high bending extremities of the branches, fastening strong strings of hemp or flax round two forked twigs, corresponding to the intended width of the nest ; with the same materials, mixed with quantities of loose tow, he interweaves or fabricates a strong firm kind of cloth, not unlike the substance of a hat in its raw state, forming it into a pouch of six or seven inches in depth, lining it substantially with various soft substances, well interwoven with the outward netting, and lastly, finishes with a layer of horse hair ; the whole being shaded from the sun and rain by a natural pent-house, or canopy of leaves. As to a hole being left in the side for the young to be fed, and void their excrements through, as Pennant and others relate, it is certainly an error : I have never met with anything of the kind in the nest of the Baltimore.

Though birds of the same species have, generally speaking, a common form of building, yet, contrary to the usually received opinion, they do not build exactly in the same manner. As much difference will be found in the style, neatness, and finishing of the nests of the Baltimores, as in their voices. Some appear far superior workmen to others; and probably age may improve them in this as it does in their colors. I have a number of their nests now before me, all completed, and with eggs. One of these, the neatest, is in the form of a cylinder, of five inches diameter, and seven inches in depth, rounded at bottom. The opening at top is narrowed, by a horizontal covering, to two inches and a half in diameter. The materials are flax, hemp, tow, hair, and wool, woven into a complete cloth; the whole tightly sewed through and through with long horse-hairs, several of which measure two feet in length. The bottom is composed of thick tufts of cow-hair, sewed also with strong horse-hair. This nest was hung on the extremity of the horizontal branch of an apple-tree, fronting the south-east; was visible one hundred yards off, though shaded by the sun; and was the work of a very beautiful and perfect bird. The eggs are five, white, slightly tinged with flesh color, marked on the greater end with purple dots, and on the other parts with long hair-like lines, intersecting each other in a variety of directions. I am thus minute in these particulars, from a wish to point out the specific difference between the true and bastard Baltimore, which Dr. Latham and some others suspect to be only the same bird in different stages of color.

So solicitous is the Baltimore to procure proper materials for his nest, that, in the season of building, the women in the country are under the necessity of narrowly watching their thread that may chance to be out bleaching, and the farmer to secure his young grafts; as the Baltimore finding the former, and the strings which tie the latter, so well adapted for his purpose, frequently carries off both; or should the one be too heavy, and the other too firmly tied, he will tug at them a considerable time before he gives up the attempt. Skeins of silk, and hanks of thread, have been often found, after the leaves were fallen, hanging round the Baltimore's nest; but so woven up, and entangled, as to be entirely irreclaimable. Before the introduction of Europeans, no such material could have been obtained here; but with the sagacity of a good architect, he has improved this circumstance to his advantage; and the strongest and best materials are uniformly found in those parts by which the whole is supported.

Their principal food consists of caterpillars, beetles and bugs, particularly one of a brilliant glossy green, fragments of which I have almost always found in their stomach, and sometimes these only.

The song of the Baltimore is a clear mellow whistle, repeated at short intervals as he gleans among the branches. There is in it a certain

wild plaintiveness and *naïveté*, extremely interesting. It is not uttered with the rapidity of the ferruginous thrush (*Turdus rufus*), and some other eminent songsters; but with the pleasing tranquillity of a careless ploughboy, whistling 'merely for his own amusement. When alarmed by an approach to his nest, or any such circumstances, he makes a kind of rapid chirruping, very different from his usual note. This, however, is always succeeded by those mellow tones, which seem so congenial to his nature.

High on yon poplar, clad in glossiest green,
 The orange, black-capped Baltimore is seen,
 The broad extended boughs still please him best;
 Beneath their bending skirts he hangs his nest;
 There his sweet mate, secure from every harm,
 Broods o'er her spotted store, and wraps them warm;
 Lists to the noontide hum of busy bees,
 Her partner's mellow song, the brook, the breeze;
 These, day by day, the lonely hours deceive,
 From dewy morn to slow descending eve.
 Two weeks elapsed, behold a helpless crew!
 Claim all her care and her affection too;
 On wings of love the assiduous nurses fly,
 Flowers, leaves and boughs, abundant food supply;
 Glad chants their guardian as abroad he goes,
 And waving breezes rock them to repose.

The Baltimore inhabits North America, from Canada to Mexico, and is even found as far south as Brazil. Since the streets of our cities have been planted with that beautiful and stately tree, the Lombardy poplar, these birds are our constant visitors during the early part of summer; and amid the noise and tumult of coaches, drays, wheelbarrows, and the din of the multitude, they are heard chanting "their native wood-notes wild;" sometimes too within a few yards of an oysterman, who stands bellowing with the lungs of a Stentor, under the shade of the same tree; so much will habit reconcile even birds to the roar of the city, and to sounds and noises, that in other circumstances, would put a whole grove of them to flight.

These birds are several years in receiving their complete plumage. Sometimes the whole tail of a male individual, in spring, is yellow, sometimes only the two middle feathers are black, and frequently the black on the back is skirted with orange, and the tail tipped with the same color. Three years, I have reason to believe, are necessary to fix the full tint of the plumage, and then the male bird appears as already described.

ORIOLES BALTIMORUS.

BALTIMORE ORIOLE.

[Plate LIII. Fig. 4—Female.]

THE history of this beautiful species has been already particularly detailed; to this representation of the female, drawn of half the size of nature, a few particulars may be added. The males generally arrive several days before the females, saunter about their wonted places of residence, and seem lonely and less sprightly than after the arrival of their mates. In the spring and summer of 1811, a Baltimore took up its abode in Mr. Bartram's garden, whose notes were so singular as particularly to attract my attention; they were as well known to me as the voice of my most intimate friend. On the thirtieth of April, 1812, I was again surprised and pleased at hearing this same Baltimore in the garden, whistling his identical old chant; and I observed that he particularly frequented that quarter of the garden where the tree stood, on the pendent branches of which he had formed his nest the preceding year. This nest had been taken possession of by the House Wren, a few days after the Baltimore's brood had abandoned it; and, curious to know how the little intruder had furnished it within, I had taken it down early in the fall, after the Wren herself had also raised a brood of six young in it, and which was her second that season. I found it stripped of its original lining, floored with sticks, or small twigs, above which were laid feathers; so that the usual complete nest of the Wren occupied the interior of that of the Baltimore.

The chief difference between the male and female Baltimore Oriole, is the superior brightness of the orange color of the former to that of the latter. The black on the head, upper part of the back and throat, of the female, is intermixed with dull orange; whereas in the male those parts are of a deep shining black; the tail of the female also wants the greater part of the black, and the whole lower parts are of a much duskier orange.

I have observed that these birds are rarely seen in pine woods, or where these trees generally prevail. On the ridges of our high mountains, they are also seldom to be met with. In orchards, and on well cultivated farms, they are most numerous, generally preferring such places to build in, rather than the woods or forest.

SPECIES II. *ORIOLOUS MUTATUS*.*

ORCHARD ORIOLE.

[Plate IV.]

Bastard Baltimore, CATESBY, I., 49.—*Le Baltimore batard*, BUFFON, III., 233, Pl. Enl. 506.—*Oriolas spurius*, GMEL. *Syst.* I., p. 389.—LATH. *Syn.* II., p. 433, 20, p. 437, 24.—BARTRAM, p. 290.

THERE are no circumstances, relating to birds, which tend so much to render their history obscure and perplexing, as the various changes of color which many of them undergo. These changes are in some cases periodical, in others progressive; and are frequently so extraordinary, that, unless the naturalist has resided for years in the country where the birds inhabit, and has examined them at almost every season, he is extremely liable to be mistaken and imposed on by their novel appearance. Numerous instances of this kind might be cited, from the pages of European writers, in which the same bird has been described two, three, and even four different times, by the same person; and each time as a different kind. The species we are now about to examine is a remarkable example of this; and as it has never to my knowledge been either accurately figured or described, I have devoted one plate to the elucidation of its history.

The Count de Buffon, in introducing what he supposed to be the male of this bird, but which appears evidently to have been the female of the Baltimore Oriole, makes the following observations, which I give in the words of his translator: "This bird is so called (*Spurious Baltimore*), because the colors of its plumage are not so lively as in the preceding (*Baltimore O.*) In fact, when we compare these birds, and find an exact correspondence in everything except the colors, and not even in the distribution of these, but only in the different tints they assume, we cannot hesitate to infer, that the *Spurious Baltimore* is a variety of a more generous race, degenerated by the influence of climate, or some other accidental cause."

* *O. Spurius*, LINN., which name must be adopted. *Icterus minor spurius*, BRISS. II., 111, pl. 10, fig. 3.—*Carouge de Cayenne*, BUFF. Pl. Enl. 607, fig. 1, (adult male.) *Carouge du Cap de bonne Espérance*, BUFF. Pl. Enl. 607, fig. 2, (female.) *Merle à gorge noire de St. Domingue*, BUFF. Pl. Enl. 559, (young male.)

How the influence of climate could affect one portion of a species and not the other, when both reside in the same climate, and feed nearly on the same food; or what accidental cause could produce a difference so striking, and also so regular, as exists between the two, are, I confess, matters beyond my comprehension. But, if it be recollected, that the bird which the Count was thus philosophizing upon, was nothing more than the female Baltimore Oriole, which exactly corresponds to the description of his male Bastard Baltimore, the difficulties at once vanish, and with them the whole superstructure of theory founded on this mistake. Dr. Latham also, while he confesses the great confusion and uncertainty that prevail between the true and bastard Baltimore and their females, considers it highly probable that the whole will be found to belong to one and the same species, in their different changes of color. In this conjecture, however, the worthy naturalist has likewise been mistaken; and I shall endeavor to point out the fact as well as the source of this mistake.

And here I cannot but take notice of the name which naturalists have bestowed on this bird, and which is certainly remarkable. Specific names, to be perfect, ought to express some peculiarity, common to no other of the genus; and should, at least, be consistent with truth; but in the case now before us, the name has no one merit of the former, nor even that of the latter to recommend it, and ought henceforth to be rejected as highly improper, and calculated, like that of Goatsucker, and many others equally ridiculous, to perpetuate that error from which it originated. The word *bastard* among men has its determinate meaning; but when applied to a whole species of birds, perfectly distinct from any other, originally deriving their peculiarities of form, manners, color, &c., from the common source of all created beings, and perpetuating them, by the usual laws of generation, as unmixed and independent as any other, is, to call it by no worse a name, a gross absurdity. Should the reader be displeased at this, I beg leave to remind him, that as the faithful historian of our feathered tribes, I must be allowed the liberty of vindicating them from every misrepresentation whatever, whether originating in ignorance or prejudice; and of allotting to each respective species, as far as I can distinguish, that rank and place in the great order of nature, to which it is entitled.

To convince the foreigner (for Americans have no doubt on the subject) that the present is a distinct species from the Baltimore, it might be sufficient to refer to the figure of the latter, in Plate I., and to fig. 4, Plate IV., of this work. I will however add, that I conclude this bird to be specifically different from the Baltimore, from the following circumstances: its size—it is less, and more slender; its colors, which are different, and *very differently disposed*; the form of its bill, which is sharper pointed, and more bent; the form of its tail, which is not *even*

but *wedged*; its notes, which are neither so full nor so mellow, and uttered with much more rapidity; its mode of building, and the materials it uses, both of which are different; and lastly, the shape and color of the eggs of each (see figs. *a* and *b*), which are evidently unlike. If all these circumstances, and I could enumerate a great many more, be not sufficient to designate this as a distinct species, by what criterion, I would ask, are we to discriminate between a *variety* and an *original* species, or to assure ourselves, that the Great Horned Owl is not in fact a *bastard* Goose, or the Carrion Crow a mere *variety* of the Humming Bird?

These mistakes have been occasioned by several causes. Principally by the changes of color, to which the birds are subject, and the distance of Europeans from the country they inhabit. Catesby, it is true, while in Carolina, described and figured the Baltimore, and perhaps was the first who published figures of either species; but he entirely omitted saying anything of the female; and instead of the male and female of the present species, as he thought, he has only figured the male in two of his different dresses; and succeeding compilers have followed and repeated the same error. Another cause may be assigned, viz., the extreme shyness of the female Orchard Oriole, represented at fig. 1. This bird has hitherto escaped the notice of European naturalists, or has been mistaken for another species, or perhaps for a young bird of the first season, which it almost exactly resembles. In none of the numerous works on ornithology has it ever before appeared in its proper character; though the male has been known to Europeans for more than a century, and has usually been figured in one of his dresses as male, and in another as female; these varying according to the fluctuating opinions of different writers. It is amusing to see how gentlemen have groped in the dark in pairing these two species of Orioles, of which the following examples may be given:

Buffon's and Latham's	} Male—Male Baltimore.
Baltimore Oriole.	} Female—Male Orchard Oriole, fig. 4.
Spurious Baltimore of	} Male—Female Baltimore.
Ditto.	} Female—Male Orchard Oriole, fig. 2.
Pennant's Baltimore O.	} Male—Male Baltimore.
	} Female—Young Male Baltimore.
Spurious O. of Ditto.	} Male—Male Orchard O., fig. 4.
	} Female—Ditto, ditto, fig. 2.
Catesby's Baltimore O.,	} Male—Male Baltimore.
	} Female—Not mentioned.
Spurious B. of Ditto.	} Male—Male Orchard O., fig. 2.
	} Female—Ditto, ditto, fig. 4.

Among all these authors, Catesby is doubtless the most inexcusable, having lived for several years in America, where he had an opportunity

of being more correct ; yet when it is considered, that the female of this bird is so much shyer than the male, that it is seldom seen ; and that while the males are flying around and bewailing an approach to their nest, the females keep aloof, watching every movement of the enemy in restless but silent anxiety ; it is less to be wondered at, I say, that two birds of the same kind, but different in plumage, making their appearance together at such times, should be taken for male and female of the same nest, without doubt or examination, as from that strong sympathy for each other's distress, which prevails so universally among them at this season, it is difficult sometimes to distinguish between the sufferer and the sympathizing neighbor.

The female of the Orchard Oriole, fig. 1, is six inches and a half in length, and eleven inches in extent, the color above is a yellow olive, inclining to a brownish tint on the back ; the wings are dusky brown, lesser wing-coverts tipped with yellowish white, greater coverts and secondaries exteriorly edged with the same, primaries slightly so ; tail rounded at the extremity, the two exterior feathers three-quarters of an inch shorter than the middle ones ; whole lower parts yellow ; bill and legs light blue, the former bent a little, very sharp pointed, and black towards the extremity ; iris of the eye hazel, pupil black. The young male of the first season corresponds nearly with the above description. But in the succeeding spring, he makes his appearance with a large patch of black marking the front, lores and throat, as represented in fig. 2. In this stage, too, the black sometimes makes its appearance on the two middle feathers of the tail ; and slight stains of reddish are seen commencing on the sides and belly. The rest of the plumage as in the female. This continuing nearly the same on the same bird during the remainder of the season. At the same time other individuals are found as represented by fig. 3, which are at least birds of the third summer. These are mottled with black and olive on the upper parts of the back, and with reddish bay and yellow on the belly, sides and vent, scattered in the most irregular manner, not alike in any two individuals ; and generally the two middle feathers of the tail are black, and the others centred with the same color. This bird is now evidently approaching to its perfect plumage, as represented in fig. 4, where the black spreads over the whole head, neck, upper part of the back, breast, wings and tail, the reddish bay or bright chestnut occupying the lower part of the breast, the belly, vent, rump, tail-coverts, and three lower rows of the lesser wing-coverts. The black on the head is deep and velvety ; that of the wings inclining to brown ; the greater wing-coverts are tipped with white. In the same orchard, and at the same time, males in each of these states of plumage may be found, united to their respective plain-colored mates.

In all these the manners, mode of building, food and notes are, gen-

erally speaking, the same, differing no more than those of any other individuals belonging to one common species. The female appears always nearly the same.

I have said that these birds construct their nests very differently from the Baltimores. They are so particularly fond of frequenting orchards, that scarcely one orchard in summer is without them. They usually suspend their nest from the twigs of the apple tree; and often from the extremities of the outward branches. It is formed exteriorly of a particular species of long, tough and flexible grass, knit or sewed through and through in a thousand directions, as if actually done with a needle. An old lady of my acquaintance, to whom I was one day showing this curious fabrication, after admiring its texture for some time, asked me in a tone between joke and earnest, whether I did not think it possible to learn these birds to darn stockings. This nest is hemispherical, three inches deep by four in breadth; the concavity scarcely two inches deep by two in diameter. I had the curiosity to detach one of the fibres, or stalks, of dried grass from the nest, and found it to measure thirteen inches in length, and in that distance was thirty-four times hooked through and returned, winding round and round the nest! The inside is usually composed of wool, or the light downy appendages attached to the seeds of the *Platanus occidentalis*, or button-wood, which form a very soft and commodious bed. Here and there the outward work is extended to an adjoining twig, round which it is strongly twisted, to give more stability to the whole, and prevent it from being upset by the wind.

When they choose the long pendent branches of the weeping-willow to build in, as they frequently do, the nest, though formed of the same materials, is made much deeper, and of slighter texture. The circumference is marked out by a number of these pensile twigs, that descend on each side like ribs, supporting the whole; their thick foliage, at the same time, completely concealing the nest from view. The depth in this case is increased to four or five inches, and the whole is made much slighter. These long pendent branches, being sometimes twelve and even fifteen feet in length, have a large sweep in the wind, and render the first of these precautions necessary, to prevent the eggs or young from being thrown out; and the close shelter afforded by the remarkable thickness of the foliage, is, no doubt, the cause of the latter. Two of these nests, such as I have here described, are now lying before me, and exhibit not only art in the construction, but judgment in adapting their fabrication so judiciously to their particular situations. If the actions of birds proceeded, as some would have us believe, from the mere impulses of that thing called *instinct*, individuals of the same species would uniformly build their nest in the same manner, wherever they might happen to fix it; but it is evident from these just mentioned, and a

thousand such circumstances, that they reason *à priori* from cause to consequence; providently managing with a constant eye to future necessity and convenience.

The eggs, one of which is represented in the same plate (fig. *a*), are usually four, of a very pale bluish tint, with a few small specks of brown and spots of dark purple. An egg of the Baltimore Oriole is exhibited beside it (fig. *b*); both of these were minutely copied from nature, and are sufficient of themselves to determine, beyond all possibility of doubt, the diversity of the two species. I may add, that Charles W. Peale, proprietor of the Museum in Philadelphia, who, as a practical naturalist, stands deservedly first in the first rank of American connoisseurs, has expressed to me his perfect conviction of the changes which these birds pass through; having himself examined them both in spring, and towards the latter part of summer, and having, at the present time, in his possession thirty or forty individuals of this species, in almost every gradation of change.

The Orchard Oriole, though partly a dependent on the industry of the farmer, is no sneaking pilferer, but an open and truly beneficent friend. To all those countless multitudes of destructive bugs and caterpillars, that infest the fruit trees in spring and summer, preying on the leaves, blossoms, and embryo of the fruit, he is a deadly enemy; devouring them wherever he can find them; and destroying, on an average, some hundreds of them every day; without offering the slightest injury to the fruit, however much it may stand in his way. I have witnessed instances where the entrance to his nest was more than half closed up by a cluster of apples, which he could have easily demolished in half a minute; but, as if holding the property of his patron sacred, or considering it as a natural bulwark to his own, he slid out and in with the greatest gentleness and caution. I am not sufficiently conversant in entomology to particularize the different species of insects on which he feeds; but I have good reason for believing that they are almost altogether such as commit the greatest depredations on the fruits of the orchard; and, as he visits us at a time when his services are of the greatest value, and, like a faithful guardian, takes up his station where the enemy is most to be expected, he ought to be held in respectful esteem, and protected by every considerate husbandman. Nor is the gaiety of his song one of his least recommendations. Being an exceedingly active, sprightly, and restless bird, he is on the ground—on the trees—flying and carolling in his hurried manner, in almost one and the same instant. His notes are shrill and lively, but uttered with such rapidity and seeming confusion, that the ear is unable to follow them distinctly. Between these he has a single note, which is agreeable and interesting. Wherever he is protected, he shows his confidence and gratitude, by his numbers and familiarity. In the Botanic Garden of my worthy and

scientific friends, the Messrs. Bartrams, of Kingsess, — which present an epitome of almost everything that is rare, useful, and beautiful in the vegetable kingdom of this western continent, and where the murderous gun scarce ever intrudes, — the Orchard Oriole revels without restraint, through thickets of aromatic flowers and blossoms; and heedless of the busy gardener that labors below, hangs his nest, in perfect security, on the branches over his head.

The female sits fourteen days; the young remain in the nest ten days afterwards,* before they venture abroad, which is generally about the middle of June. Nests of this species, with eggs, are sometimes found so late as the twentieth of July, which must belong to birds that have lost their first nest; or it is probable that many of them raise two broods in the same season, though I am not positive of the fact.

The Orchard Orioles arrive in Pennsylvania rather later than the Baltimores, commonly about the first week in May; and extend as far as the province of Maine. They are also more numerous towards the mountains than the latter species. In traversing the country near the Blue Ridge, in the month of August, I have seen at least five of this species for one of the Baltimore. Early in September, they take their departure for the south; their term of residence here being little more than four months. Previous to their departure, the young birds become gregarious, and frequent the rich extensive meadows of the Schuylkill, below Philadelphia, in flocks of from thirty to forty or upwards. They are easily raised from the nest, and soon become agreeable domestics. One which I reared and kept through the winter, whistled with great clearness and vivacity at two months old. It had an odd manner of moving its head and neck slowly and regularly, and in various directions, when intent on observing anything, without stirring its body. This motion was as slow and regular as that of a snake. When at night a candle was brought into the room, it became restless and evidently dissatisfied, fluttering about the cage as if seeking to get out; but when the cage was placed on the same table with the candle, it seemed extremely well pleased, fed and drank, dressed, shook, and arranged its plumage, sat as close to the light as possible, and sometimes chanted a few broken irregular notes in that situation, as I sat writing or reading beside it. I also kept a young female of the same nest, during the greatest part of winter, but could not observe, in that time, any change in its plumage.

* There is evidently some mistake here, as the young could hardly be fledged in ten days.

GENUS XVI. GRACULA. GRAKLE.

SPECIES I. GRACULA FERRUGINEA.

RUSTY GRAKLE.*

[Plate XXI. Fig. 3.]

Black Oriole, *Arct. Zool.* p. 259, No. 144.—*Rusty Oriole*, *Ibid.* p. 260, No. 146.—*New York Thrush*, *Ibid.* p. 339, No. 205.—*Hudsonian Thrush*, *Ibid.* No. 234, female.—*Labrador Thrush*, *Ibid.* p. 340, No. 206.

HERE is a single species described by one of the most judicious naturalists of Great Britain no less than five different times! The greater part of these descriptions is copied by succeeding naturalists, whose synonymes it is unnecessary to repeat. So great is the uncertainty in judging, from a mere examination of their dried or stuffed skins, of the particular tribes of birds, many of which, for several years, are constantly varying in the colors of their plumage; and at different seasons, or different ages, assuming new and very different appearances. Even the size is by no means a safe criterion, the difference in this respect between the male and female of the same species (as in the one now before us) being sometimes very considerable.

This bird arrives in Pennsylvania, from the north, early in October; associates with the Red-wings, and Cow-pen Buntings, frequents corn-fields, and places where grasshoppers are plenty; but Indian corn, at that season, seems to be its principal food. It is a very silent bird, having only now and then a single note, or *chuck*. We see them occasionally until about the middle of November, when they move off to the south. On the twelfth of January I overtook great numbers of these birds in the woods near Petersburg, Virginia, and continued to see occasional parties of them almost every day as I advanced southerly, particularly in South Carolina, around the rice plantations, where they were numerous; feeding about the hog-pens, and wherever Indian corn was to be procured. They also extend to a considerable distance westward. On the fifth of March, being on the banks of the Ohio, a few miles below the mouth of the Kentucky river, in the midst of a heavy snow-storm, a flock of these birds alighted near the door of the cabin

* The Genus *Gracula*, as at present restricted, consists of only a single species; the others formerly included in it have been distributed in other genera. The two species described by Wilson belong to the genus *Icterus* as adopted by Temminck.

where I had taken shelter, several of which I shot, and found their stomachs, as usual, crammed with Indian corn. Early in April they pass hastily through Pennsylvania, on their return to the north to breed.

From the accounts of persons who have resided near Hudson's Bay, it appears, that these birds arrive there in the beginning of June, as soon as the ground is thawed sufficiently for them to procure their food, which is said to be worms and maggots; sing with a fine note till the time of incubation, when they have only a chucking noise, till the young take their flight: at which time they resume their song. They build their nests in trees; about eight feet from the ground, forming them with moss and grass, and lay five eggs of a dark color, spotted with black. It is added, they gather in great flocks, and retire southerly in September.*

The male of this species, when in perfect plumage, is nine inches in length, and fourteen in extent; at a small distance appears wholly black; but on a near examination is of a glossy dark green; the irides of the eye are silvery, as in those of the Purple Grackle; the bill is black, nearly of the same form with that of the last-mentioned species; the lower mandible a little rounded, with the edges turned inward, and the upper one furnished with a sharp bony process on the inside, exactly like that of the purple species. The tongue is slender, and lacerated at the tip; legs and feet black and strong, the hind claw the largest; the tail is slightly rounded. This is the color of the male when of full age; but three-fourths of these birds which we meet with, have the whole plumage of the breast, head, neck, and back, tintured with brown, every feather being skirted with ferruginous; over the eye is a light line of pale brown, below that one of black passing through the eye. This brownness gradually goes off towards spring, for almost all those I shot in the southern states were but slightly marked with ferruginous. The female is nearly an inch shorter; head, neck, and breast, almost wholly brown; a light line over the eye, lores black; belly and rump ash; upper and under tail-coverts skirted with brown; wings black, edged with rust color; tail black, glossed with green; legs, feet and bill, as in the male.

These birds might easily be domesticated. Several that I had winged, and kept for some time, became in a few days quite familiar, seeming to be very easily reconciled to confinement.

* Arct. Zool. p. 259.

SPECIES II. *GRACULA QUISCALA*.

PURPLE GRÄKLE.

[Plate XXI. Fig. 4.]

La Pie de la Jamaïque, BRISSON, II., 41.—BUFFON, III., 97, *Pl. Enl.* 538.—*Arct. Zool.* p. 309, No. 154.—*Gracula purpurea*, the lesser Purple Jackdaw, or Crow Black-bird, BARTRAM, p. 291.*

THIS noted depredator is well known to every farmer of the northern and middle states. About the twentieth of March the Purple Grakles visit Pennsylvania from the south, fly in loose flocks, frequent swamps and meadows, and follow in the furrows after the plough; their food at this season consisting of worms, grubs, and caterpillars, of which they destroy prodigious numbers, as if to recompense the husbandman beforehand for the havoc they intend to make among his crops of Indian corn. Towards evening they retire to the nearest cedars and pine trees to roost; making a continual chattering as they fly along. On the tallest of these trees they generally build their nests in company, about the beginning or middle of April; sometimes ten or fifteen nests being on the same tree. One of these nests, taken from a high pine tree, is now before me. It measures full five inches in diameter within, and four in depth; is composed outwardly of mud, mixed with long stalks and roots of a knotty kind of grass, and lined with fine bent and horse hair. The eggs are five, of a bluish olive color, marked with large spots and straggling streaks of black and dark brown, also with others of a fainter tinge. They rarely produce more than one brood in a season.

The trees where these birds build are often at no great distance from the farm-house, and overlook the plantations. From thence they issue, in all directions, and with as much confidence, to make their daily depredations among the surrounding fields, as if the whole were intended for their use alone. Their chief attention, however, is directed to the Indian corn in all its progressive stages. As soon as the infant blade of this grain begins to make its appearance above ground, the Grakles hail the welcome signal with screams of peculiar satisfaction; and without waiting for a formal invitation from the proprietor, descend on the

* We add the following synonyms: *Boat-tailed Grakle*, LATH. *Gen. Syn.* 1, p. 460, No. 5.—*Maize-thief*, KALM'S *Travels*.—*Sturnus quiscala*, DAUDIN, 2, p. 316.—*Gracula barita*, *Journal Acad. Nat. Sciences of Philad.* vol. 1, p. 254.—*Quiscala versicolor*, BONAPARTE'S *Ornithology*, vol. 1., p. 42, pl. V., female.

fields, and begin to pull up and regale themselves on the seed, scattering the green blades around. While thus eagerly employed, the vengeance of the gun sometimes overtakes them; but these disasters are soon forgotten, and those

“—— who live to get away,
Return to steal, another day.”

About the beginning of August, when the young ears are in their milky state, they are attacked with redoubled eagerness by the Grakles and Red-wings, in formidable and combined bodies. They descend like a blackening, sweeping tempest, on the corn, dig off the external covering of twelve or fifteen coats of leaves, as dexterously as if done by the hand of man, and having laid bare the ear, leave little behind to the farmer but the cobs, and shrivelled skins that contained their favorite fare. I have seen fields of corn of many acres, where more than one-half was thus ruined. Indeed the farmers in the immediate vicinity of the rivers Delaware and Schuylkill, generally allow one-fourth of this crop to the Blackbirds, among whom our Grakle comes in for his full share. During these depredations, the gun is making great havoc among their numbers, which has no other effect on the survivors than to send them to another field, or to another part of the same field. This system of plunder and of retaliation continues until November, when towards the middle of that month they begin to sheer off towards the south. The lower parts of Virginia, North and South Carolina, and Georgia, are the winter residences of these flocks. Here numerous bodies, collecting together from all quarters of the interior and northern districts, and darkening the air with their numbers, sometimes form one congregated multitude of many hundred thousands. A few miles from the banks of the Roanoke, on the twentieth of January, I met with one of those prodigious armies of Grakles. They rose from the surrounding fields with a noise like thunder, and descending on the length of road before me, covered it and the fences completely with black; and when they again rose, and after a few evolutions descended on the skirts of the high timbered woods, at that time destitute of leaves, they produced a most singular and striking effect; the whole trees for a considerable extent, from the top to the lowest branches, seeming as if hung in mourning; their notes and screaming the meanwhile resembling the distant sound of a great cataract, but in more musical cadence, swelling and dying away on the ear according to the fluctuation of the breeze. In Kentucky, and all along the Mississippi, from its junction with the Ohio to the Balize, I found numbers of these birds, so that the Purple Grakle may be considered as a very general inhabitant of the territory of the United States.

Every industrious farmer complains of the mischief committed on his

corn by the *Crow Blackbirds*, as they are usually called; though were the same means used, as with pigeons, to take them in clap-nets, multitudes of them might thus be destroyed; and the products of them in market, in some measure, indemnify him for their depredations. But they are most numerous and most destructive at a time when the various harvests of the husbandman demand all his attention, and all his hands to cut, cure, and take in; and so they escape with a few sweeps made among them by some of the younger boys, with the gun; and by the gunners from the neighboring towns and villages; and return from their winter quarters, sometimes early in March, to renew the like scenes over again. As some consolation, however, to the industrious cultivator, I can assure him, that were I placed in his situation, I should hesitate whether to consider these birds most as friends or enemies, as they are particularly destructive to almost all the noxious worms, grubs, and caterpillars, that infest his fields, which, were they allowed to multiply unmolested, would soon consume nine-tenths of all the production of his labor, and desolate the country with the miseries of famine! Is not this another striking proof that the Deity has created nothing in vain; and that it is the duty of man, the lord of the creation, to avail himself of their usefulness, and guard against their bad effects as securely as possible, without indulging in the barbarous, and even impious, wish for their utter extermination?

The Purple Grakle is twelve inches long, and eighteen in extent; on a slight view seems wholly black, but placed near, in a good light, the whole head, neck, and breast appear of a rich glossy steel blue, dark violet, and silky green; the violet prevails most on the head and breast, and the green on the hind part of the neck; the back, rump, and whole lower parts, the breast excepted, reflect a strong coppery gloss; wing-coverts, secondaries, and coverts of the tail, rich light violet, in which the red prevails; the rest of the wings, and cuneiform tail, are black, glossed with steel blue. All the above colors are extremely shining, varying as differently exposed to the light; iris of the eye silvery; bill more than an inch long, strong, and furnished on the inside of the upper mandible with a sharp process, like the stump of the broken blade of a penknife, intended to assist the bird in masticating its food; tongue thin, bifid at the end, and lacerated along the sides.

The female is rather less; has the upper part of the head, neck, and the back, of a dark sooty brown; chin, breast, and belly dull pale brown, lightest on the former; wings, tail, lower parts of the back and vent black, with a few reflections of dark green; legs, feet, bill, and eyes as in the male.

The Purple Grakle is easily tamed, and sings in confinement. They have also, in several instances, been taught to articulate some few words pretty distinctly.

A singular attachment frequently takes place between this bird and the Fish-Hawk. The nest of this latter is of very large dimensions, often from three to four feet in breadth, and from four to five feet high; composed, externally, of large sticks or faggots, among the interstices of which sometimes three or four pairs of Crow Blackbirds will construct their nests, while the Hawk is sitting or hatching above. Here each pursues the duties of incubation, and of rearing their young; living in the greatest harmony, and mutually watching and protecting each other's property from depredators.

Note.—The *Gracula quiscula* of the tenth edition of the *Systema Naturæ* was established upon Catesby's Purple Jackdaw. This bird is common in Carolina, Georgia, and Florida, where it is still known by the name of Jackdaw; whereas the Purple Grakle of Wilson is called Blackbird, or Crow Blackbird. The latter is also common in the states south of Virginia; but the Jackdaw, after rearing its young, retires further south on the approach of winter; whereas the Purple Grakle hyemates in the southern section of our Union, and migrates, in the spring, to the Middle and Northern States to breed. The female of the Crow Blackbird is dark sooty-brown and black; the female of the Jackdaw is "all over brown," agreeably to Catesby's description. This author states the weight of the Jackdaw to be *six ounces*; the weight of the Crow Blackbird seldom exceeds *four ounces and a half*. That the two species have been confounded there is no doubt; and it is not easy to disembroil the confusion into which they have been thrown by naturalists, who have never had an opportunity of visiting the native regions of both. It is evident that Catesby thought there was but one species of these birds in Carolina, otherwise he would have discovered that those which he observed during the winter in great flocks, were different from his Jackdaws, which is the proper summer resident of that State, although it is probable that some of the Crow Blackbirds are also indigenous. The true *Gracula barita* of Linnæus is not yet satisfactorily ascertained; the Boat-tailed Grakle of Latham's General Synopsis is unquestionably the Purple Grakle of Wilson. The best figures of the Purple Jackdaw which we have seen, are those given in Bonaparte's Ornithology, vol. 1, pl. 4. They were drawn by Mr. Alexander Rider of Philadelphia, (not by Mr. Audubon, as is stated,) from specimens brought from East Florida by Mr. Titian Peale and myself.—*G. Ord.*

GENUS XX. CUCULUS. CUCKOO.*

SPECIES I. CUCULUS CAROLINENSIS.

YELLOW-BILLED CUCKOO.

[Plate XXVIII. Fig. 1.]

Cuculus Americanus, LINN. *Syst.* ed. 10, p. 111.—CATESB. I., 9.—LATH. I., 537.—
Le Coucou de la Caroline, BRISS. IV., 112.—*Arct. Zool.* 265, No. 155.

A STRANGER who visits the United States for the purpose of examining their natural productions, and passes through our woods in the month of May or June, will sometimes hear as he traverses the borders of deep, retired, high timbered hollows, an uncouth guttural sound or note, resembling the syllables *kowe, kowe, kowe kowe kowe!* beginning slowly, but ending so rapidly, that the notes seem to run into each other, and *vice versa*; he will hear this frequently without being able to discover the bird or animal from which it proceeds, as it is both shy and solitary, seeking always the thickest foliage for concealment. This is the Yellow-billed Cuckoo, the subject of the present account. From the imitative sound of its note, it is known in many parts by the name of the *Cow-bird*; it is also called in Virginia the *Rain-Crow*, being observed to be most clamorous immediately before rain.

This species arrives in Pennsylvania, from the south, about the twenty-second of April, and spreads over the country as far at least as Lake Ontario; is numerous in the Chickasaw and Choctaw nations; and also breeds in the upper parts of Georgia; preferring in all these places the borders of solitary swamps and apple-orchards. It leaves us, on its return southward, about the middle of September.

The singular, I will not say unnatural, conduct of the European Cuckoo, (*Cuculus canorus*), which never constructs a nest for itself, but drops its eggs in those of other birds, and abandons them to their mercy and management, is so universally known, and so proverbial, that the whole tribe of Cuckoos have, by some inconsiderate people, been stigmatized as destitute of all parental care and affection. Without attempting to account for this remarkable habit of the European species, far less to consider as an error what the wisdom of Heaven has imposed as a duty

* This genus has been considerably restricted by recent ornithologists. The two species referred by Wilson to their genus belong to the genus *Coccyzus* of Vieillot, adopted by Temminck.

on the species, I will only remark, that the bird now before us builds its own nest, hatches its own eggs, and rears its own young; and in conjugal and parental affection seems nowise behind any of its neighbors of the grove.

Early in May they begin to pair, when obstinate battles take place among the males. About the tenth of that month they commence building. The nest is usually fixed among the horizontal branches of an apple-tree; sometimes in a solitary thorn, crab or cedar, in some retired part of the woods. It is constructed with little art, and scarcely any concavity, of small sticks and twigs, intermixed with green weeds, and blossoms of the common maple. On this almost flat bed, the eggs, usually three or four in number, are placed; these are of a uniform greenish blue color, and of a size proportionable to that of the bird. While the female is sitting, the male is generally not far distant, and gives the alarm by his notes, when any person is approaching. The female sits so close, that you may almost reach her with your hand, and then precipitates herself to the ground, feigning lameness, to draw you away from the spot, fluttering, trailing her wings, and tumbling over, in the manner of the Partridge, Woodcock, and many other species. Both parents unite in providing food for the young. This consists for the most part of caterpillars, particularly such as infest apple-trees. The same insects constitute the chief part of their own sustenance. They are accused, and with some justice, of sucking the eggs of other birds, like the Crow, the Blue Jay, and other pillagers. They also occasionally eat various kinds of berries. But from the circumstance of destroying such numbers of very noxious larvæ, they prove themselves the friends of the farmer, and are highly deserving of his protection.

The Yellow-billed Cuckoo is thirteen inches long, and sixteen inches in extent; the whole upper parts are of a dark glossy drab, or what is usually called a Quaker color, with greenish silky reflections; from this must however be excepted, the inner vanes of the wings, which are bright reddish cinnamon; the tail is long, composed of ten feathers, the two middle ones being of the same color as the back, the others which gradually shorten to the exterior ones, are black, largely tipped with white; the two outer ones are scarcely half the length of the middle one; the whole lower parts are pure white; the feathers covering the thighs being large like those of the Hawk tribe; the legs and feet are light blue, the toes placed two before, and two behind, as in the rest of the genus; the bill is long, a little bent, very broad at the base, dusky black above, and yellow below; the eye hazel, feathered close to the eyelid, which is yellow. The female differs little from the male; the four middle tail-feathers in her are of the same uniform drab; and the white, with which the others are tipped, not so pure as in the male.

In examining this bird by dissection, the inner membrane of the giz-

zard, which in many other species is so hard and muscular, in this is extremely lax and soft, capable of great distension; and, what is remarkable, is covered with a growth of fine down or hair, of a light fawn color. It is difficult to ascertain the particular purpose which nature intends by this excrescence; perhaps it may serve to shield the tender parts from the irritating effects produced by the hairs of certain caterpillars, some of which are said to be almost equal to the sting of a nettle.

SPECIES II. *CUCULUS ERYTHROPHthalmus*.

BLACK-BILLED CUCKOO.

[Plate XXVIII. Fig. 2.]

THIS Cuckoo is nearly as numerous as the former; but has hitherto escaped the notice of European naturalists; or from its general resemblance has been confounded with the preceding. Its particular markings, however, and some of its habits, sufficiently characterize it as a distinct species. Its general color above is nearly that of the former, inclining more to a pale ash on the cheeks and front; it is about an inch less in length; the tail is of a uniform dark silky drab, except at the tip, where each feather is marked with a spot of white, bordered above with a slight touch of dull black; the bill is wholly black, and much smaller than that of the preceding; and it wants the bright cinnamon on the wings. But what constitutes its most distinguishing trait is a bare wrinkled skin, of a deep red color, that surrounds the eye. The female differs little in external appearance from the male.

The Black-billed Cuckoo is particularly fond of the sides of creeks, feeding on small shell-fish, snails, &c. I have also often found broken pieces of oyster-shells in its gizzard, which, like that of the other, is covered with fine downy hair.

The nest of this bird is most commonly built in a cedar, much in the same manner, and of nearly the same materials, as that of the other; but the eggs are smaller, usually four or five in number, and of a rather deeper greenish blue.

This bird is likewise found in the state of Georgia, and has not escaped the notice of Mr. Abbot, who is satisfied of its being a distinct species from the preceding.

GENUS XXII. PICUS. WOODPECKER.

SPECIES I. *PICUS PRINCIPALIS*.

IVORY-BILLED WOODPECKER.

[Plate XXIX. Fig. 1.]

Picus principalis, LINN. *Syst.* I., p. 173, 2.—GMEL. *Syst.* I., p. 425.—*Picus niger Carolinensis cristatus*, BRISS. IV., p. 26, 9.—*Pic noir à bec blanc*, BUFF. VII., p. 46.—*Pl. Enl.* 690.—*King of the Woodpeckers*, KALM, vol. II., p. 85.—*White-billed Woodpecker*, CATESB. *Car.* I., 16.—*Arct. Zool.* II., No. 156.—LATH. *Syn.* II., p. 553.—BARTRAM, p. 289.

THIS majestic and formidable species, in strength and magnitude, stands at the head of the whole class of Woodpeckers hitherto discovered. He may be called the king or chief of his tribe; and Nature seems to have designed him a distinguished characteristic, in the superb carmine crest, and bill of polished ivory, with which she has ornamented him. His eye is brilliant and daring; and his whole frame so admirably adapted for his mode of life, and method of procuring subsistence, as to impress on the mind of the examiner the most reverential ideas of the Creator. His manners have also a dignity in them superior to the common herd of Woodpeckers. Trees, shrubbery, orchards, rails, fence-posts, and old prostrate logs, are alike interesting to those, in their humble and indefatigable search for prey; but the royal hunter now before us, scorns the humility of such situations, and seeks the most towering trees of the forest; seeming particularly attached to those prodigious cypress swamps, whose crowded giant sons stretch their bare and blasted, or moss-hung, arms midway to the skies. In these almost inaccessible recesses, amid ruinous piles of impending timber, his trumpet-like note, and loud strokes, resound through the solitary, savage wilds, of which he seems the sole lord and inhabitant. Wherever he frequents, he leaves numerous monuments of his industry behind him. We there see enormous pine-trees, with cart-loads of bark lying around their roots, and chips of the trunk itself in such quantities, as to suggest the idea that half a dozen of axemen had been at work for the whole morning. The body of the tree is also disfigured with such numerous and so large excavations, that one can hardly conceive it possible for the whole to be the work of a Woodpecker. With such strength, and an apparatus so powerful, what havoc might he not commit, if numerous, on the most useful of our forest trees; and yet with all these appear-

ances, and much of vulgar prejudice against him, it may fairly be questioned whether he is at all injurious; or, at least, whether his exertions do not contribute most powerfully to the protection of our timber. Examine closely the tree where he has been at work, and you will soon perceive, that it is neither from motives of mischief nor amusement that he slices off the bark, or digs his way into the trunk. For the sound and healthy tree is not in the least the object of his attention. The diseased, infested with insects, and hastening to putrefaction, are *his* favorites; there the deadly crawling enemy have formed a lodgment, between the bark and tender wood, to drink up the very vital part of the tree. It is the ravages of these vermin which the intelligent proprietor of the forest deplures, as the sole perpetrators of the destruction of his timber. Would it be believed that the larvæ of an insect, or fly, no larger than a grain of rice, should silently, and in one season, destroy some thousand acres of pine trees, many of them from two to three feet in diameter, and a hundred and fifty feet high! Yet whoever passes along the high road from Georgetown to Charleston, in South Carolina, about twenty miles from the former place, can have striking and melancholy proofs of this fact. In some places the whole woods, as far as you can see around you, are dead, stripped of the bark, their wintry-looking arms and bare trunks bleaching in the sun, and tumbling in ruins before every blast, presenting a frightful picture of desolation. And yet ignorance and prejudice stubbornly persist in directing their indignation against the bird now before us, the constant and mortal enemy of these very vermin, as if the hand that probed the wound, to extract its cause, should be equally detested with that which inflicted it; or as if the thief-catcher should be confounded with the thief. Until some effectual preventive, or more complete mode of destruction, can be devised against these insects, and their larvæ, I would humbly suggest the propriety of protecting, and receiving with proper feelings of gratitude, the services of this and the whole tribe of Woodpeckers, letting the odium of guilt fall to its proper owners.

In looking over the accounts given of the Ivory-billed Woodpecker by the naturalists of Europe, I find it asserted, that it inhabits from New Jersey to Mexico. I believe, however, that few of them are ever seen to the north of Virginia, and very few of them even in that state. The first place I observed this bird at, when on my way to the south, was about twelve miles north of Wilmington, in North Carolina. There I found the bird from which the drawing of the figure in the plate was taken. This bird was only wounded slightly in the wing, and on being caught, uttered a loudly-reiterated, and most piteous note, exactly resembling the violent crying of a young child; which terrified my horse so, as nearly to have cost me my life. It was distressing to hear it. I carried it with me in the chair, under cover, to Wilmington. In passing

through the streets, its affecting cries surprised every one within hearing, particularly the females, who hurried to the doors and windows, with looks of alarm and anxiety. I drove on, and on arriving at the piazza of the hotel, where I intended to put up, the landlord came forward, and a number of other persons who happened to be there, all equally alarmed at what they heard; this was greatly increased by my asking whether he could furnish me with accommodations for myself and my baby. The man looked blank, and foolish, while the others stared with still greater astonishment. After diverting myself for a minute or two at their expense, I drew my Woodpecker from under the cover, and a general laugh took place. I took him up stairs, and locked him up in my room, while I went to see my horse taken care of. In less than an hour I returned, and on opening the door he set up the same distressing shout, which now appeared to proceed from the grief that he had been discovered in his attempts at escape. He had mounted along the side of the window, nearly as high as the ceiling, a little below which he had begun to break through. The bed was covered with large pieces of plaster; the lath was exposed for at least fifteen inches square, and a hole, large enough to admit the fist, opened to the weather-boards; so that in less than another hour he would certainly have succeeded in making his way through. I now tied a string round his leg, and fastening it to the table, again left him. I wished to preserve his life, and had gone off in search of suitable food for him. As I reascended the stairs, I heard him again hard at work, and on entering had the mortification to perceive that he had almost entirely ruined the mahogany table to which he was fastened, and on which he had wreaked his whole vengeance. While engaged in taking the drawing, he cut me severely in several places, and on the whole, displayed such a noble and unconquerable spirit, that I was frequently tempted to restore him to his native woods. He lived with me nearly three days, but refused all sustenance, and I witnessed his death with regret.

The head and bill of this bird is in great esteem among the southern Indians, who wear them by way of amulet or charm, as well as ornament; and, it is said, dispose of them to the northern tribes at considerable prices. An Indian believes that the head, skin, or even feathers of certain birds, confer on the wearer all the virtues or excellencies of those birds. Thus I have seen a coat made of the skins, heads and claws of the Raven; caps stuck round with heads of Butcher-birds, Hawks and Eagles; and as the disposition and courage of the Ivory-billed Woodpecker are well known to the savages, no wonder they should attach great value to it, having both beauty, and, in their estimation, distinguished merit to recommend it.

This bird is not migratory, but resident in the countries where it inhabits. In the low counties of the Carolinas, it usually prefers the large-

timbered cypress swamps for breeding in. In the trunk of one of these trees, at a considerable height, the male and female alternately, and in conjunction, dig out a large and capacious cavity for their eggs and young. Trees thus dug out have frequently been cut down, with sometimes the eggs and young in them. This hole according to information, for I have never seen one myself, is generally a little winding, the better to keep out the weather, and from two to five feet deep. The eggs are said to be generally four, sometimes five, as large as a pullet's, pure white, and equally thick at both ends; a description that, except in size, very nearly agrees with all the rest of our Woodpeckers. The young begin to be seen abroad about the middle of June. Whether they breed more than once in the same season is uncertain.

So little attention do the people of the countries where these birds inhabit, pay to the minutiae of natural history, that, generally speaking, they make no distinction between the Ivory-billed and Pileated Woodpecker, represented in the same plate; and it was not till I showed them the two birds together, that they knew of any difference. The more intelligent and observing part of the natives, however, distinguish them by the name of the large and lesser *Logcocks*. They seldom examine them but at a distance, gunpowder being considered too precious to be thrown away on Woodpeckers; nothing less than a Turkey being thought worth the value of a load.

The food of this bird consists, I believe, entirely of insects and their larvæ. The Pileated Woodpecker is suspected of sometimes tasting the Indian corn; the Ivory-billed never. His common note, repeated every three or four seconds, very much resembles the tone of a trumpet, or the high note of a clarinet, and can plainly be distinguished at the distance of more than half a mile; seeming to be immediately at hand, though perhaps more than one hundred yards off. This it utters while mounting along the trunk, or digging into it. At these times it has a stately and novel appearance; and the note instantly attracts the notice of a stranger. Along the borders of the Savannah river, between Savannah and Augusta, I found them very frequently; but my horse no sooner heard their trumpet-like note, than remembering his former alarm, he became almost ungovernable.

The Ivory-billed Woodpecker is twenty inches long, and thirty inches in extent; the general color is black, with a considerable gloss of green when exposed to a good light; iris of the eye vivid yellow; nostrils covered with recumbent white hairs; fore part of the head black, rest of the crest of a most splendid red, spotted at the bottom with white, which is only seen when the crest is erected, as represented in the plate; this long red plumage being ash-colored at its base, above that white, and ending in brilliant red; a stripe of white proceeds from a point, about half an inch below each eye, passes down each side of the neck,

and along the back, where they are about an inch apart, nearly to the rump; the first five primaries are wholly black, on the next five the white spreads from the tip higher and higher to the secondaries, which are wholly white from their coverts downwards: these markings, when the wings are shut, make the bird appear as if his back were white, hence he has been called, by some of our naturalists, the large White-backed Woodpecker; the neck is long; the beak an inch broad at the base, of the color and consistence of ivory, prodigiously strong, and elegantly fluted; the tail is black, tapering from the two exterior feathers, which are three inches shorter than the middle ones, and each feather has the singularity of being greatly concave below; the wing is lined with yellowish white; the legs are about an inch and a quarter long, the exterior toe about the same length, the claws exactly semicircular and remarkably powerful, the whole of a light blue or lead color. The female is about half an inch shorter, the bill rather less, and the whole plumage of the head black, glossed with green; in the other parts of the plumage she exactly resembles the male. In the stomachs of three which I opened, I found large quantities of a species of worm called *borers*, two or three inches long, of a dirty cream-color, with a black head; the stomach was an oblong pouch, not muscular like the gizzards of some others. The tongue was worm-shaped, and for half an inch at the tip as hard as horn, flat, pointed, of the same white color as the bill, and thickly barbed on each side.

SPECIES II. *PICUS PILEATUS*.

PILEATED WOODPECKER.

[Plate XXIX. Fig. 2.]

Picus pileatus, LATH. *Ind. Orn.* I., p. 225, 4.—LINN. *Syst.* I., p. 173, 3.—GMEL. *Syst.* I., p. 425.—*Picus niger Virginianus cristatus*, BRISS. IV., p. 29, 10.—*Pic noir à huppe rouge*, BUFF. VII., p. 48.—*Pic noir huppe de la Louisiane*, PL. ENL. 718.—*Larger crested Woodpecker*, CATESB. *Car.* I., 17.—*Pileated Woodpecker*, ARCT. Zool. II., No. 157.—LATH. *Syn.* II., p. 554, 3.—Id. *Sup.* p. 105.—BARTRAM, p. 289.

THIS American species is the second in size among his tribe, and may be styled the Great Northern Chief of the Woodpeckers, though, in fact, his range extends over the whole of the United States, from the interior of Canada to the Gulf of Mexico. He is very numerous in the Genesee country, and in all the tracts of high-timbered forests, particularly in the neighborhood of our large rivers, where he is noted for making a loud and almost incessant cackling before wet weather; flying

at such times in a restless uneasy manner from tree to tree, making the woods echo to his outcry. In Pennsylvania, and the Northern States, he is called the Black Woodcock; in the Southern States, the Logcock. Almost every old trunk in the forest, where he resides, bears the marks of his chisel. Wherever he perceives a tree beginning to decay, he examines it round and round with great skill and dexterity, strips off the bark in sheets of five or six feet in length to get at the hidden cause of the disease, and labors with a gayety and activity really surprising. I have seen him separate the greatest part of the bark from a large dead pine-tree, for twenty or thirty feet, in less than a quarter of an hour. Whether engaged in flying from tree to tree, in digging, climbing or barking, he seems perpetually in a hurry. He is extremely hard to kill, clinging close to the tree even after he has received his mortal wound; nor yielding up his hold but with his expiring breath. If slightly wounded in the wing, and dropped while flying, he instantly makes for the nearest tree, and strikes, with great bitterness, at the hand stretched out to seize him; and can rarely be reconciled to confinement. He is sometimes observed among the hills of Indian corn, and it is said by some that he frequently feeds on it. Complaints of this kind are, however, not general; many farmers doubting the fact, and conceiving that at these times he is in search of insects which lie concealed in the husk. I will not be positive that they never occasionally taste maize; yet I have opened and examined great numbers of these birds, killed in various parts of the United States, from Lake Ontario to the Altamaha river, but never found a grain of Indian corn in their stomachs.

The Pileated Woodpecker is not migratory, but braves the extremes of both the arctic and torrid regions. Neither is he gregarious, for it is rare to see more than one or two, or at the most three, in company. Formerly they were numerous in the neighborhood of Philadelphia; but gradually as the old timber fell, and the country became better cleared, they retreated to the forest. At present few of these birds are to be found within ten or fifteen miles of the city.

Their nest is built, or rather the eggs are deposited, in the hole of a tree, dug out by themselves, no other materials being used but the soft chips of rotten wood. The female lays six large eggs of a snowy whiteness; and, it is said, they generally raise two broods in the same season.

This species is eighteen inches long, and twenty-eight in extent; the general color is a dusky brownish black; the head is ornamented with a conical cap of bright scarlet; two scarlet mustaches proceed from the lower mandible; the chin is white; the nostrils are covered with brownish white hair-like feathers, and this stripe of white passes thence down the side of the neck to the sides, spreading under the wings; the upper half of the wings, is white, but concealed by the black coverts; the lower extremities of the wings are black; so that the white on the wing

is not seen when the bird is flying, at which time it is very prominent; the tail is tapering, the feathers being very convex above and strong; the legs are of a leaden gray color, very short, scarcely half an inch, the toes very long, the claws strong and semicircular, and of a pale blue; the bill is fluted, sharply ridged, very broad at the base, bluish black above, below and at the point bluish white; the eye is of a bright golden color; the pupil black; the tongue, like those of its tribe, is worm-shaped, except near the tip, where for one-eighth of an inch it is horny, pointed, and beset with barbs.

The female has the forehead, and nearly to the crown, of a light brown color, and the mustaches are dusky instead of red. In both, a fine line of white separates the red crest from the dusky line that passes over the eye.

SPECIES III. *PICUS AURATUS*.

GOLDEN-WINGED WOODPECKER.

[Plate III. Fig. 1.]

Le Pic aux ailes dorées, BUFFON, VII., 39. *Pl. Enl.* 693.—*Picus auratus*, LINN. *Syst.* 174.—*Cuculus alis de auratis*, KLEIN, p. 30.—CATESBY, I., 18.—LATHAM, II., 597. BARTRAM, p. 289.*

THIS elegant bird is well known to our farmers and junior sportsmen, who take every opportunity of destroying him; the former for the supposed trespasses he commits on their Indian corn, or the trifle he will bring in market, and the latter for the mere pleasure of destruction, and perhaps for the flavor of his flesh, which is in general esteem. In the state of Pennsylvania he can scarcely be called a bird of passage, as even in severe winters they may be found within a few miles of the city of Philadelphia; and I have known them exposed for sale in market every week during the months of November, December and January, and that too in more than commonly rigorous weather. They, no doubt, partially migrate, even here; being much more numerous in spring and fall than in winter. Early in the month of April they begin to prepare their nest, which is built in the hollow body or branch of a tree, sometimes, though not always, at a considerable height from the ground; for I have frequently known them fix on the trunk of an old apple-tree,

* We add the following synonymes:—*Cuculus auratus*, LINN. *Syst.* ed. 10, 1, 112.—GMEL. *Syst.* I., 430.—LATH. *Ind. Orn.* p. 242.—*Picus Canadensis striatus*, BRISS. 4, 72.—PENN. *Arct. Zool.* No. 158.

at not more than six feet from the root. The sagacity of this bird in discovering, under a sound bark, a hollow limb or trunk of a tree, and its perseverance in perforating it for the purpose of incubation, are truly surprising; the male and female alternately relieving and encouraging each other by mutual caresses, renewing their labors for several days, till the object is attained, and the place rendered sufficiently capacious, convenient and secure. At this employment they are so extremely intent, that they may be heard till a very late hour in the evening, thumping like carpenters. I have seen an instance where they had dug first five inches straight forwards, and then downwards more than twice that distance, through a solid black oak. They carry in no materials for their nest, the soft chips, and dust of the wood, serving for this purpose. The female lays six white eggs, almost transparent. The young early leave the nest, and, climbing to the higher branches, are there fed by their parents.

The food of this bird varies with the season. As the common cherries, bird-cherries, and berries of the sour gum, successively ripen, he regales plentifully on them, particularly on the latter; but the chief food of this species, or that which is most usually found in his stomach, is wood-lice, and the young and larvæ of ants, of which he is so immoderately fond, that I have frequently found his stomach distended with a mass of these, and these only, as large nearly as a plum. For the procuring of these insects, nature has remarkably fitted him. The bills of Woodpeckers, in general, are straight, grooved or channelled, wedge-shaped, and compressed to a thin edge at the end, that they may the easier penetrate the hardest wood; that of the Golden-winged Woodpecker is long, slightly bent, ridged only on the top, and tapering almost to a point, yet still retaining a little of the wedge form there. Both, however, are admirably adapted to the peculiar manner each has of procuring its food. The former, like a powerful wedge, to penetrate the dead and decaying branches, after worms and insects; the latter, like a long and sharp pick-axe, to dig up the hillocks of pismires, that inhabit old stumps in prodigious multitudes. These beneficial services would entitle him to some regard from the husbandman, were he not accused, and perhaps not without just cause, of being too partial to the Indian corn, when in that state which is usually called *roasting-ears*. His visits are indeed rather frequent about this time; and the farmer, suspecting what is going on, steals through among the rows with his gun, bent on vengeance, and forgetful of the benevolent sentiment of the poet; that

“—— Just as wide of *justice* he must fall
Who thinks all made for One, not one for all.”

But farmers, in general, are not much versed in poetry, and pretty well

acquainted with the value of corn, from the hard labor requisite in raising it.

In rambling through the woods one day, I happened to shoot at one of these birds, and wounded him slightly in the wing. Finding him in full feather, and seemingly but little hurt, I took him home, and put him into a large cage, made of willows, intending to keep him in my own room, that we might become better acquainted. As soon as he found himself enclosed on all sides, he lost no time in idle fluttering, but throwing himself against the bars of the cage, began instantly to demolish the willows, battering them with great vehemence, and uttering a loud piteous kind of cackling, similar to that of a hen when she is alarmed, and takes to wing. Poor Baron Trenck never labored with more eager diligence at the walls of his prison, than this son of the forest in his exertions for liberty; and he exercised his powerful bill with such force, digging into the sticks, seizing and shaking them so from side to side, that he soon opened for himself a passage; and though I repeatedly repaired the breach, and barricadoed every opening in the best manner I could, yet on my return into the room, I always found him at large, climbing up the chairs, or running about the floor, where, from the dexterity of his motions, moving backwards, forwards, and sidewise, with the same facility, it became difficult to get hold of him again. Having placed him in a strong wire cage, he seemed to give up all hopes of making his escape, and soon became very tame; fed on young ears of Indian corn; refused apples, but ate the berries of the sour gum greedily, small winter grapes, and several other kinds of berries; exercised himself frequently in climbing, or rather hopping perpendicularly along the sides of the cage; and as evening drew on, fixed himself in a high hanging or perpendicular position, and slept with his head in his wing. As soon as dawn appeared, even before it was light enough to perceive him distinctly across the room, he descended to the bottom of the cage, and began his attack on the ears of Indian corn, rapping so loud as to be heard from every room in the house. After this he would sometimes resume his former position, and take another nap. He was beginning to become very amusing, and even sociable, when, after a lapse of several weeks, he became drooping, and died, as I conceived, from the effects of his wound.

Some European naturalists (and among the rest Linnæus himself, in his tenth edition of the *Systema Naturæ*), have classed this bird with the genus *Cuculus*, or Cuckoo, informing their readers that it possesses many of the habits of the Cuckoo; that it is almost always on the ground; is never seen to climb trees like the other Woodpeckers, and that its bill is altogether unlike theirs; every one of which assertions I must say is incorrect, and could have only proceeded from an entire unacquaintance with the manners of the bird. Except in the article of the

bill, and that, as been before observed, is still a little wedge-formed at the point, it differs in no one characteristic from the rest of its genus. Its nostrils are covered with tufts of recumbent hairs or small feathers; its tongue is round, worm-shaped, flattened towards the tip, pointed, and furnished with minute barbs; it is also long, missile, and can be instantaneously protruded to an uncommon distance. The os hyoides, or internal parts of the tongue, like those of its tribe, is a substance for strength and elasticity resembling whalebone, divided into two branches, each the thickness of a knitting-needle, that pass, one on each side of the neck, to the hind-head, where they unite, and run up along the skull in a groove, covered with a thin membrane or sheath; descend into the upper mandible by the right side of the right nostril, and reach to within half an inch of the point of the bill, to which they are attached. by another extremely elastic membrane, that yields when the tongue is thrown out, and contracts as it is retracted. In the other Woodpeckers we behold the same apparatus, differing a little in different species. In some these cartilaginous substances reach only to the top of the cranium; in others they reach to the nostril; and in one species they are wound round the bone of the right eye, which projects considerably more than the left for its accommodation.

The tongue of the Golden-winged Woodpecker, like the others, is also supplied with a viscid fluid, secreted by two glands, that lie under the ear on each side, and are at least five times larger in this species than in any other of its size; with this the tongue is continually moistened, so that every small insect it touches instantly adheres to it. The tail, in its strength and pointedness, as well as the feet and claws, prove that the bird was designed for climbing; and in fact I have scarcely ever seen it on a tree five minutes at a time without climbing; hopping not only upwards and downwards, but spirally; pursuing and playing with its fellow, in this manner, round the body of the tree. I have also seen them a hundred times alight on the trunk of the tree; though they more frequently alight on the branches; but that they climb, construct like nests, lay the same number, and the like colored eggs, and have the manners and habits of the Woodpeckers, is notorious to every American naturalist; while neither in the form of their body, nor any other part, except in the bill being somewhat bent, and the toes placed two before, and two behind, have they the smallest resemblance whatever to the Cuckoo.

It may not be improper, however, to observe, that there is another species of Woodpecker, called also Golden-Winged,* which inhabits the country near the Cape of Good Hope, and resembles the present, it is said, almost exactly in the color and form of its bill, and in the tint and markings of its plumage; with this difference, that the moustaches are

* *Picus cafer*, Turton's Linn.

red instead of black, and the lower side of the wings, as well as their shafts, are also red, where the other is golden yellow. It is also considerably less. With respect to the habits of this new species, we have no particular account; but there is little doubt that they will be found to correspond with the one we are now describing.

The abject and degraded character which the Count de Buffon, with equal eloquence and absurdity, has drawn of the whole tribe of Woodpeckers, belongs not to the elegant and sprightly bird now before us. How far it is applicable to any of them will be examined hereafter. He is not "constrained to drag out an insipid existence in boring the bark and hard fibres of trees to extract his prey," for he frequently finds in the loose mouldering ruins of an old stump (the capital of a nation of pismires), more than is sufficient for the wants of a whole week. *He* cannot be said to "lead a mean and gloomy life, without an intermission of labor," who usually feasts by the first peep of dawn, and spends the early, and sweetest hours of morning, on the highest peaks of the tallest trees, calling on his mate or companions; or pursuing and gamboling with them round the larger limbs and body of the tree for hours together; for such are really his habits. Can it be said that "necessity never grants an interval of sound repose" to that bird, who, while other tribes are exposed to all the peltings of the midnight storm, lodges dry and secure in a snug chamber of his own constructing? or that "the narrow circumference of a tree circumscribes *his* dull round of life," who, as seasons and inclination inspire, roams from the frigid to the torrid zone, feasting on the abundance of various regions? Or is it a proof that "his appetite is never softened by delicacy of taste," because he so often varies his bill of fare, occasionally preferring to animal food the rich milkiness of young Indian corn, and the wholesome and nourishing berries of the Wild Cherry, Sour Gum, and Red Cedar? Let the reader turn to the faithful representation of him given in the plate, and say whether his looks be "sad and melancholy!" It is truly ridiculous and astonishing that such absurdities should escape the lips or pen of one so able to do justice to the respective merits of every species; but Buffon had too often a favorite theory to prop up, that led him insensibly astray; and so, forsooth, the whole family of Woodpeckers must look sad, sour, and be miserable, to satisfy the caprice of a whimsical philosopher, who takes it into his head that they are, and ought to be, so.

But the count is not the only European who has misrepresented and traduced this beautiful bird. One has given him brown legs,* another a yellow neck;† a third has declared him a Cuckoo,‡ and in an English translation of Linnæus's System of Nature, lately published, he is char-

* See Encyl. Brit. Art. PICTS.

† Latham.

‡ Klein.

acterized as follows: "transversely striate with black and gray;" chin and breast black; does not climb trees;"* which is just as correct as if, in describing the human species, we should say—skin striped with black and green; cheeks blue; chin orange; never walks on foot, &c. The pages of natural history should resemble a faithful mirror, in which mankind may recognise the true images of the living originals; instead of which we find this department of them, too often, like the hazy and rough medium of wretched window-glass, through whose crooked protuberances everything appears so strangely distorted, that one scarcely knows his most intimate neighbors and acquaintance.

The Golden-winged Woodpecker has the back and wings above of a dark umber, transversely marked with equidistant streaks of black; upper part of the head an iron gray; cheeks and parts surrounding the eyes, a fine cinnamon color; from the lower mandible a strip of black, an inch in length, passes down each side of the throat, and a lunated spot, of a vivid blood red, covers the hindhead, its two points reaching within half an inch of each eye; the sides of the neck, below this, incline to a bluish gray; throat and chin a very light cinnamon or fawn color; the breast is ornamented with a broad crescent of deep black; the belly and vent white, tinged with yellow, and scattered with innumerable round spots of black, every feather having a distinct central spot, those on the thighs and vent being heart-shaped and largest; the lower or inner side of the wing and tail, shafts of all the larger feathers, and indeed of almost every feather, are of a beautiful golden yellow—that on the shafts of the primaries being very distinguishable, even when the wings are shut; the rump is white, and remarkably prominent; the tail-coverts white, and curiously serrated with black; upper side of the tail, and the tip below, black, edged with light loose filaments of a cream color, the two exterior feathers serrated with whitish; shafts black towards the tips, the two middle ones nearly wholly so; bill an inch and a half long, of a dusky horn color, somewhat bent, ridged only on the top, tapering, but not to a point, that being a little wedge-formed; legs and feet light blue; iris of the eye hazel; length twelve inches, extent twenty. The female differs from the male chiefly in the greater obscurity of the fine colors, and in wanting the black moustaches on each side of the throat. This description, as well as the drawing, was taken from a very beautiful and perfect specimen.

Though this species, generally speaking, is migratory, yet they often remain with us in Pennsylvania during the whole winter. They also inhabit the continent of North America, from Hudson's Bay to Georgia; and have been found by voyagers on the northwest coast of America. They arrive at Hudson's Bay in April, and leave it in September. Mr.

* Turton's Linnæus, vol. i., p. 264.

Hearne, however, informs us that the "Golden-winged Woodpecker is almost the only species of Woodpecker that winters near Hudson's Bay." The natives there call it *Ou-thee-quan-nor-ow*, from the golden color of the shafts and lower side of the wings. It has numerous provincial appellations in the different States of the Union, such as "High-hole," from the situation of its nest, and "Hittock," "Yucker," "Piut," "Flicker," by which last it is usually known in Pennsylvania. These names have probably originated from a fancied resemblance of its notes to the sound of the words; for one of its most common cries consists of two notes or syllables, frequently repeated, which, by the help of the hearer's imagination, may easily be made to resemble any or all of them.

SPECIES IV. *PICUS ERYTHROCEPHALUS*.

RED-HEADED WOODPECKER.

[Plate IX. Fig. 1.]

Picus erythrocephalus, LINN. *Syst.* I., 174, 7.—GMEL. *Syst.* I., 429.—*Pic noir à domino rouge*, BUFFON, VII., 55. *Pl. Enl.* 117.—CATESBY, I., 20.—*Arct. Zool.* II., No. 160.—LATH. *Syn.* II., 561.*

THERE is perhaps no bird in North America more universally known than this. His tri-colored plumage, red, white, and black glossed with steel blue, is so striking, and characteristic; and his predatory habits in the orchards and corn-fields, added to his numbers, and fondness for hovering along the fences, so very notorious, that almost every child is acquainted with the Red-headed Woodpecker. In the immediate neighborhood of our large cities, where the old timber is chiefly cut down, he is not so frequently found; and yet at this present time, June, 1808, I know of several of their nests, within the boundaries of the city of Philadelphia. Two of these are in button-wood trees (*Platanus occidentalis*), and another in the decayed limb of an elm. The old ones, I observe, make their excursions regularly to the woods beyond the Schuylkill, about a mile distant; preserving great silence and circumspection in visiting their nests; precautions not much attended to by them in the depths of the woods, because there the prying eye of man is less to be dreaded. Towards the mountains, particularly in the vicinity of creeks and rivers, these birds are extremely abundant, especially in the latter end of summer. Wherever you travel in the interior, at

* We add the following synonymes:—*Picus obscurus*, GMEL. *Syst.* I., 429, *young*—LATH. *Ind. Orn.* 228.—*Picus Virginianus erythrocephalus*, BRISS. 4, p. 52.

that season, you hear them screaming from the adjoining woods, rattling on the dead limbs of trees or on the fences, where they are perpetually seen flitting from stake to stake, on the roadside before you. Wherever there is a tree, or trees, of the wild-cherry, covered with ripe fruit, there you see them busy among the branches; and in passing orchards, you may easily know where to find the earliest, sweetest apples, by observing those trees, on or near which the Red-headed Woodpecker is skulking; for he is so excellent a connoisseur in fruit, that wherever an apple or pear is found broached by him, it is sure to be amongst the ripest and best flavored. When alarmed, he seizes a capital one by striking his open bill deep into it, and bears it off to the woods. When the Indian corn is in its rich, succulent, milky state, he attacks it with great eagerness, opening a passage through the numerous folds of the husk, and feeding on it with voracity. The girdled, or deadened timber, so common among corn-fields, in the back settlements, are his favorite retreats, whence he sallies out to make his depredations. He is fond of the ripe berries of the sour gum; and pays pretty regular visits to the cherry-trees, when loaded with fruit. Towards fall, he often approaches the barn, or farm-house, and raps on the shingles and weather-boards. He is of a gay and frolicsome disposition; and half a dozen of the fraternity are frequently seen diving and vociferating around the high dead limbs of some large tree, pursuing and playing with each other, and amusing the passenger with their gambols. Their note or cry is shrill and lively, and so much resembles that of a species of tree frog, which frequents the same tree, that it is sometimes difficult to distinguish the one from the other.

Such are the *vicious* traits, if I may so speak, in the character of the Red-headed Woodpecker; and I doubt not but from what has been said on this subject, that some readers would consider it meritorious to exterminate the whole tribe, as a nuisance; and in fact the legislatures of some of our provinces, in former times, offered premiums, to the amount of twopence per head, for their destruction.* But let us not condemn the species unheard. They exist; they must therefore be necessary. If their merits and usefulness be found, on examination, to preponderate against their vices, let us avail ourselves of the former, while we guard, as well as we can, against the latter.

Though this bird occasionally regales himself on fruit, yet his natural, and most useful, food is insects, particularly those numerous and destructive species that penetrate the bark and body of the tree, to deposit their eggs and larvæ, the latter of which are well known to make immense havoc. That insects are his natural food, is evident from the construction of his wedge-formed bill, the length, elasticity, and figure

* Kalm.

of his tongue, and the strength and position of his claws; as well as from his usual habits. In fact, insects form at least two-thirds of his subsistence; and his stomach is scarcely ever found without them. He searches for them with a dexterity and intelligence, I may safely say, more than human; he perceives by the exterior appearance of the bark where they lurk below; when he is dubious, he rattles vehemently on the outside with his bill, and his acute ear distinguishes the terrified vermin shrinking within to their inmost retreats, where his pointed and barbed tongue soon reaches them. The masses of bugs, caterpillars, and other larvæ, which I have taken from the stomachs of these birds, have often surprised me. These larvæ, it should be remembered, feed not only on the buds, leaves and blossoms, but on the very vegetable life of the tree, the alburnum, or newly forming bark and wood; the consequence is, that whole branches, and whole trees, decay, under the silent ravages of these destructive vermin; witness the late destruction of many hundred acres of pine-trees in the north-eastern parts of South Carolina;* and the thousands of peach-trees that yearly decay from the same cause. Will any one say, that taking half a dozen, or half a hundred, apples from a tree, is equally ruinous with cutting it down? or, that the services of a useful animal should not be rewarded with a small portion of that which it has contributed to preserve? We are told, in the benevolent language of the Scriptures, not to muzzle the mouth of the ox that treadeth out the corn; and why should not the same generous liberality be extended to this useful family of birds, which forms so powerful a phalanx against the inroads of many millions of destructive vermin.

The Red-headed Woodpecker is, properly speaking, a bird of passage; though even in the Eastern States, individuals are found during moderate winters, as well as in the states of New York and Pennsylvania; in Carolina they are somewhat more numerous during that season; but not one-tenth of what are found in summer. They make their appearance in Pennsylvania about the first of May; and leave us about the middle of October. They inhabit from Canada to the Gulf of Mexico, and are also found on the western coast of North America. About the middle of May they begin to construct their nests, which, like the rest of the genus, they form in the body, or large limbs, of trees, taking in no materials, but smoothing it within to the proper shape and size. The female lays six eggs, of a pure white; and the young make their first appearance about the twentieth of June. During the first season, the head and neck of the young birds are blackish gray, which has occa-

* In one place, on a tract of two thousand acres of pine land, on the Sampit river, near Georgetown, at least ninety trees in every hundred were destroyed by this pernicious insect, a small, black, winged bug, resembling the weevil, but somewhat longer.

sioned some European writers to mistake them for females; the white on the wing is also spotted with black; but in the succeeding spring they receive their perfect plumage, and the male and female then differ only in the latter being rather smaller, and her colors not quite so vivid; both have the head and neck deep scarlet; the bill light blue, black towards the extremity, and strong; back, primaries, wing-coverts and tail, black, glossed with steel blue; rump, lower part of the back, secondaries, and whole under parts, from the breast downwards, white; legs and feet bluish green; claws light blue; round the eye a dusky narrow skin, bare of feathers; iris dark hazel; total length nine inches and a half, extent seventeen inches. The figure in the plate was drawn and colored from a very elegant living specimen.

Notwithstanding the care which this bird, in common with the rest of its genus, takes to place its young beyond the reach of enemies, within the hollows of trees; yet there is one deadly foe, against whose depredations neither the height of the tree, nor the depth of the cavity, is the least security. This is the Black Snake (*Coluber constrictor*), who frequently glides up the trunk of the tree, and, like a skulking savage, enters the Woodpecker's peaceful apartment, devours the eggs or helpless young, in spite of the cries and flutterings of the parents; and, if the place be large enough, coils himself up in the spot they occupied, where he will sometimes remain for several days. The eager school-boy, after hazarding his neck to reach the Woodpecker's hole, at the triumphant moment when he thinks the nestlings his own, and strips his arm, lanching it down into the cavity, and grasping what he conceives to be the callow young, starts with horror at the sight of a hideous snake, and almost drops from his giddy pinnacle, retreating down the tree with terror and precipitation. Several adventures of this kind have come to my knowledge; and one of them that was attended with serious consequences; where both snake and boy fell to the ground; and a broken thigh, and long confinement, cured the adventurer completely of his ambition for robbing Woodpeckers' nests.

SPECIES V. *PICUS VARIUS*.

YELLOW-BELLIED WOODPECKER.

[Plate IX. Fig. 2.]

Picus varius, LINN. *Syst.* I., 176, 20.—GMEL. *Syst.* I., 438.—*Le pic varie de la Caroline*, BUFF. VII., 77. *Pl. Enl.* 785.—*Yellow-bellied Woodpecker*, CATESB. I., 21.—*Arct. Zool.* II., No. 166.—LATH. *Syn.* II., 574, 20. *Id.* Sup. p. 109.

THIS beautiful species is one of our resident birds. It visits our orchards in the month of October, in great numbers; is occasionally seen during the whole winter and spring; but seems to seek the depths of the forest, to rear its young in; for during summer, it is rarely seen among our settlements; and even in the intermediate woods, I have seldom met with it in that season. According to Brisson, it inhabits the continent from Cayenne to Virginia; and I may add, as far as to Hudson's Bay; where according to Hutchins, they are called *Mekisewe Paupastaow*;* they are also common in the states of Kentucky and Ohio, and have been seen in the neighborhood of St. Louis. They are reckoned by Georgi, among the birds that frequent the Lake Baikal, in Asia,† but their existence there has not been satisfactorily ascertained.

The habits of this species are similar to those of the Hairy and Downy Woodpeckers, with which it generally associates; and which are both represented in the same plate. The only nest of this bird which I have met with, was in the body of an old pear-tree, about ten or eleven feet from the ground. The hole was almost exactly circular, small for the size of the bird, so that it crept in and out with difficulty, but suddenly widened, descending by a small angle, and then running downwards about fifteen inches. On the smooth solid wood lay four white eggs. This was about the twenty-fifth of May. Having no opportunity of visiting it afterwards, I cannot say whether it added any more eggs to the number; I rather think it did not, as it appeared, at that time, to be sitting.

The Yellow-bellied Woodpecker is eight inches and a half long, and in extent fifteen inches; whole crown a rich and deep scarlet, bordered with black on each side, and behind forming a slight crest, which it frequently erects;‡ from the nostrils, which are thickly covered with

* Latham.

† Ibid.

‡ This circumstance seems to have been overlooked by naturalists.

recumbent hairs, a narrow strip of white runs downward, curving round the breast, mixing with the yellowish white on the lower part of the breast; throat the same deep scarlet as the crown, bordered with black, proceeding from the lower mandible on each side, and spreading into a broad rounding patch on the breast; this black, in birds of the first and second year, is dusky gray, the feathers being only crossed with circular touches of black; a line of white, and below it another of black, proceed, the first from the upper part of the eye, the other from the posterior half of the eye, and both lose themselves on the neck and back; back dusky yellow, sprinkled and elegantly waved with black; wings black, with a large oblong spot of white; the primaries tipped and spotted with white; the three secondaries, next the body, are also variegated with white; rump white, bordered with black; belly yellow; sides under the wings more dusky yellow, marked with long arrow-heads of black; legs and feet greenish blue; tail black, consisting of ten feathers, the two outward feathers, on each side tipped with white, the next totally black, the fourth edged on its inner vane, half way down, with white, the middle one white on its interior vane, and spotted with black; tongue flat, horny for half an inch at the tip, pointed, and armed along its sides with reflected barbs; the other extremities of the tongue pass up behind the skull in a groove, and end near the right nostril; in birds of the first and second year, they reach only to the crown; bill an inch long, channelled, wedge-formed at the tip, and of a dusky horn color. The female is marked nearly as the male, but wants the scarlet on the throat, which is whitish; she is also darker under the wings, and on the sides of the breast. The young of the first season, of both sexes, in October, have the crown sprinkled with black and deep scarlet; the scarlet on the throat may be also observed in the young males. The principal food of these birds is insects; and they seem particularly fond of frequenting orchards, boring the trunks of the apple-trees, in their eager search after them. On opening them, the liver appears very large, and of a dirty gamboge color; the stomach strongly muscular, and generally filled with fragments of beetles and gravel. In the morning they are extremely active in the orchards, and rather shy than the rest of their associates. Their cry is also different, but though it is easily distinguishable in the woods, cannot be described by words.

SPECIES VI. *PICUS VILLOSUS*.

HAIRY WOODPECKER.

[Plate IX. Fig. 3.]

Picus villosus, LINN. *Syst.* I., 175, 16.—*Pic chevelu de Virginie*, BUFFON, VII. 74.—*Pic varie mâle de Virginie*, Pl. enl. 754.—*Hairy Woodpecker*, CATESBY, I., 13, fig. 2.—*Arct. Zool.* II., No. 164.—LATH. *Syn.* II., 572, 18. Id. Sup. 108.

THIS is another of our resident birds, and, like the former, a haunter of orchards, and borer of apple-trees, an eager hunter of insects, their eggs and larvæ, in old stumps, and old rails, in rotten branches, and crevices of the bark; having all the characters of the Woodpecker strongly marked. In the month of May, he retires with his mate to the woods, and either seeks out a branch already hollow, or cuts out an opening for himself. In the former case, I have known his nest more than five feet distant from the mouth of the hole; and in the latter, he digs first horizontally, if in the body of the tree, six or eight inches, and then downwards, obtusely, for twice that distance; carrying up the chips with his bill, and scraping them out with his feet. They also not unfrequently choose the orchard for breeding in; and even an old stake of the fence, which they excavate for this purpose. The female lays five white eggs, and hatches in June. This species is more numerous than the last in Pennsylvania, and more domestic; frequently approaching the farm-house, and skirts of the town. In Philadelphia, I have many times observed them examining old ragged trunks of the willow and poplar, while people were passing immediately below. Their cry is strong, shrill and tremulous; they have also a single note or *chuck*, which they often repeat, in an eager manner, as they hop about, and dig into the crevices of the trees. They inhabit the continent, from Hudson's Bay to Carolina and Georgia.

The Hairy Woodpecker is nine inches long, and fifteen in extent; crown black; line over and under the eye white; the eye is placed in a black line, that widens as it descends to the back; hind-head scarlet, sometimes intermixed with black; nostrils hid under remarkably thick, bushy, recumbent hairs or bristles; under the bill are certain long hairs thrown forward, and upwards, as represented in the figure; bill a bluish horn color, grooved, wedged at the end, straight, and about an inch and a quarter long; touches of black, proceeding from the lower mandible, end in a broad black stripe, that joins the black on the shoulder;

back black, divided by a broad lateral strip of white, the feathers composing which are loose and unwebbed, resembling hairs, whence its name; rump and shoulders of the wing, black; wings black, tipped and spotted with white, three rows of spots being visible on the secondaries, and five on the primaries; greater wing-coverts also spotted with white; tail as in the others, cuneiform, consisting of ten strong-shafted and pointed feathers, the four middle ones black, the next partially white, the two exterior ones white, tinged at the tip with a brownish burnt color; tail-coverts black; whole lower side pure white; legs, feet and claws, light blue, the latter remarkably large and strong; inside of the mouth flesh-colored; tongue pointed, beset with barbs, and capable of being protruded more than an inch and a half; the *os hyoides*, in this species, pass on each side of the neck, ascend the skull, pass down toward the nostril, and are wound round the bone of the right eye, which projects considerably more than the left for its accommodation. The great mass of hairs, that cover the nostril, appears to be designed as a protection to the front of the head, when the bird is engaged in digging holes into the wood. The membrane, which encloses the brain, in this, as in all the other species of Woodpeckers, is also of extraordinary strength, no doubt to prevent any bad effects from violent concussion, while the bird is employed in digging for food. The female wants the red on the hind-head; and the white below is tinged with brownish. The manner of flight of these birds has been already described, under a former species, as consisting of alternate risings and sinkings. The Hairy Woodpeckers generally utter a loud tremulous scream, as they set off, and when they alight. They are hard to kill, and, like the Red-headed Woodpecker, hang by the claws, even of a single foot, as long as a spark of life remains, before they drop.

This species is common at Hudson's Bay; and has lately been found in England. Dr. Latham examined a pair, which were shot near Halifax, in Yorkshire; and on comparing the male with one brought from North America, could perceive no difference, but in a slight interruption of the red that marked the hind-head of the former; a circumstance which I have frequently observed in our own. The two females corresponded exactly.

SPECIES VII. *PICUS PUBESCENS.*

DOWNY WOODPECKER.

[Plate IX. Fig. 4.]

Picus pubescens, LINN. *Syst.* I., 175, 15.—GMEL. *Syst.* I., 435.—*Petit Pic varie de Virginie*, BUFFON, VII., 76.—*Smallest Woodpecker*, CATESB. I., 21.—*Arct. Zool.* II., No. 165.—*Little Woodpecker*, LATH. *Syn.* II., 573, 19. *Id.* Sup. 109.

THIS is the smallest of our Woodpeckers, and so exactly resembles the former in its tints and markings, and in almost everything, except its diminutive size, that I wonder how it passed through the Count de Buffon's hands, without being branded as "a spurious race, degenerated by the influence of food, climate, or some unknown cause." But though it has escaped this infamy, charges of a much more heinous nature have been brought against it, not only by the writer above-mentioned, but by the whole venerable body of zoologists in Europe, who have treated of its history, viz. that it is almost constantly boring and digging into apple-trees; and that it is the most destructive of its whole genus to the orchards. The first part of this charge I shall not pretend to deny; how far the other is founded in truth will appear in the sequel. Like the two former species, it remains with us the whole year. About the middle of May, the male and female look out for a suitable place for the reception of their eggs and young. An apple, pear or cherry tree, often in the near neighborhood of the farm-house, is generally pitched upon for this purpose. The tree is minutely reconnoitred for several days, previous to the operation, and the work is first begun by the male, who cuts out a hole in the solid wood, as circular as if described with a pair of compasses. He is occasionally relieved by the female, both parties working with the most indefatigable diligence. The direction of the hole, if made in the body of the tree, is generally downwards, by an angle of thirty or forty degrees, for the distance of six or eight inches, and then straight down for ten or twelve more; within roomy, capacious, and as smooth as if polished by the cabinet-maker; but the entrance is judiciously left just so large as to admit the body of the owner. During this labor, they regularly carry out the chips, often strewing them at a distance to prevent suspicion. This operation sometimes occupies the chief part of a week. Before she begins to lay, the female often visits the place, passes out and in, examines every part, both of the exterior and interior, with great attention, as every pru-

dent tenant of a new house ought to do, and at length takes complete possession. The eggs are generally six, pure white, and laid on the smooth bottom of the cavity. The male occasionally supplies the female with food, while she is sitting; and about the last week in June, the young are perceived making their way up the tree, climbing with considerable dexterity. All this goes on with great regularity, where no interruption is met with; but the House Wren, who also builds in the hollow of a tree, but who is neither furnished with the necessary tools, nor strength for excavating such an apartment for himself, allows the Woodpeckers to go on, till he thinks it will answer his purpose, then attacks him with violence and generally succeeds in driving them off. I saw, some weeks ago, a striking example of this, where the Woodpeckers we are now describing, after commencing in a cherry-tree, within a few yards of the house, and having made considerable progress, were turned out by the Wren: the former began again on a pear-tree in the garden, fifteen or twenty yards off, whence, after digging out a most complete apartment, and one egg being laid, they were once more assaulted by the same impertinent intruder, and finally forced to abandon the place.

The principal characteristics of this little bird are diligence, familiarity, perseverance, and a strength and energy in the head, and muscles of the neck, which are truly astonishing. Mounted on the infected branch of an old apple-tree, where insects have lodged their corroding and destructive brood, in the crevices between the bark and wood, he labors, sometimes for half an hour, incessantly at the same spot, before he has succeeded in dislodging and destroying them. At these times you may walk up pretty close to the tree, and even stand immediately below it, within five or six feet of the bird, without in the least embarrassing him; the strokes of his bill are distinctly heard several hundred yards off; and I have known him to be at work for two hours together on the same tree. Buffon calls this, "incessant toil and slavery,"—their attitude, "a painful posture,"—and their life, "a dull and insipid existence;" expressions improper, because untrue; and absurd, because contradictory. The posture is that for which the whole organization of his frame is particularly adapted; and though to a Wren, or a Humming-bird, the labor would be both toil and slavery, yet to him it is, I am convinced, as pleasant, and as amusing, as the sports of the chase to the hunter, or the sucking of flowers to the Humming-bird. The eagerness with which he traverses the upper and lower sides of the branches; the cheerfulness of his cry, and the liveliness of his motions while digging into the tree, and dislodging the vermin, justify this belief. He has a single note, or *chink*, which, like the former species, he frequently repeats. And when he flies off, or alights on another tree, he utters a rather shriller cry, composed

of nearly the same kind of note, quickly reiterated. In fall and winter, he associates with the Titmouse, Creeper, &c., both in their wood and orchard excursions; and usually leads the van. Of all our Woodpeckers, none rid the apple-trees of so many vermin as this, digging off the moss, which the negligence of the proprietor had suffered to accumulate, and probing every crevice. In fact, the orchard is his favorite resort in all seasons; and his industry is unequalled, and almost incessant, which is more than can be said of any other species we have. In fall, he is particularly fond of boring the apple-trees for insects, digging a circular hole through the bark, just sufficient to admit his bill, after that a second, third, &c., in pretty regular horizontal circles round the body of the tree; these parallel circles of holes are often not more than an inch, or an inch and a half, apart, and sometimes so close together, that I have covered eight or ten of them at once with a dollar. From nearly the surface of the ground, up to the first fork, and sometimes far beyond it, the whole bark of many apple-trees is perforated in this manner, so as to appear as if made by successive discharges of buck-shot; and our little Woodpecker, the subject of the present account, is the principal perpetrator of this supposed mischief. I say *supposed*, for so far from these perforations of the bark being ruinous, they are not only harmless, but, I have good reason to believe, really beneficial to the health and fertility of the tree. I leave it to the philosophical botanist to account for this; but the fact I am confident of. In more than fifty orchards, which I have myself carefully examined, those trees which were marked by the Woodpecker (for some trees they never touch, perhaps because not penetrated by insects), were uniformly the most thriving, and seemingly the most productive; many of these were upwards of sixty years old, their trunks completely covered with holes, while the branches were broad, luxuriant, and loaded with fruit. Of *decayed* trees, more than three-fourths were untouched by the Woodpecker. Several intelligent farmers, with whom I have conversed, candidly acknowledge the truth of these observations, and with justice look upon these birds as beneficial; but the most common opinion is, that they bore the tree to suck the sap, and so destroy its vegetation; though pine and other resinous trees, on the juices of which it is not pretended they feed, are often found equally perforated. Were the *sap* of the tree their object, the saccharine juice of the birch, the sugar-maple, and several others, would be much more inviting, because more sweet and nourishing, than that of either the pear or apple-tree; but I have not observed one mark on the former, for ten thousand that may be seen on the latter; besides, the early part of spring is the season when the sap flows most abundantly; whereas it is only during the months of September, October, and November, that Woodpeckers are seen so indefatigably engaged in orchards, probing

every crack and crevice, boring through the bark, and, what is worth remarking, chiefly on the south and south-west sides of the tree, for the eggs and larvæ deposited there, by the countless swarms of summer insects. These, if suffered to remain, would prey upon the very vitals, if I may so express it, of the tree, and in the succeeding summer, give birth to myriads more of their race, equally destructive.

Here then is a whole species, I may say genus, of birds, which Providence seems to have formed for the protection of our fruit and forest trees, from the ravages of vermin; which every day destroy millions of those noxious insects, that would otherwise blast the hopes of the husbandman; and which even promote the fertility of the tree; and, in return, are proscribed by those who ought to have been their protectors; and incitements and rewards held out for their destruction! Let us examine better into the operations of nature, and many of our mistaken opinions, and groundless prejudices, will be abandoned for more just, enlarged, and humane modes of thinking.

The length of the Downy Woodpecker is six inches and three-quarters, and its extent twelve inches; crown black; hind-head deep scarlet; stripe over the eye white; nostrils thickly covered with recumbent hairs, or small feathers, of a cream color: these, as in the preceding species, are thick and bushy, as if designed to preserve the forehead from injury during the violent action of digging; the back is black, and divided by a lateral strip of white, loose, downy, unwebbed feathers; wings black, spotted with white; tail-coverts, rump, and four middle feathers of the tail, black; the other three on each side white, crossed with touches of black; whole under parts, as well as the sides of the neck, white; the latter marked with a streak of black, proceeding from the lower mandible, exactly as in the Hairy Woodpecker; legs and feet bluish green; claws light blue, tipped with black; tongue formed like that of the preceding species, horny towards the tip, where for one-eighth of an inch it is barbed; bill of a bluish horn color, grooved, and wedge-formed, like most of the genus; eye dark hazel. The female wants the red on the hind-head, having that part white; and the breast and belly are of a dirty white.

This, and the two former species, are generally denominated *Sapsuckers*; they have also several other provincial appellations, equally absurd, which it may, perhaps, be more proper to suppress, than to sanction by repeating.

SPECIES VIII. *PICUS QUERULUS*.

RED-CKADED WOODPECKER.

[Plate XV. Fig. 1.]

THIS new species I first discovered in the pine woods of North Carolina. The singularity of its voice, which greatly resembles the chirping of young nestlings, and the red streak on the side of its head, suggested the specific name I have given it. It also extends through South Carolina and Georgia, at least as far as the Altamaha river. Observing the first specimen I found to be so slightly marked with red, I suspected it to be a young bird, or imperfect in its plumage, but the great numbers I afterwards shot, satisfied me that this is a peculiarity of the species. It appeared exceedingly restless, active, and clamorous; and everywhere I found its manners the same.

This bird seems to be an intermediate link between the Red-bellied and the Hairy Woodpecker, represented in Plates VII. and IX. of this work. It has the back of the former, and the white belly and spotted neck of the latter; but wants the breadth of red in both, and is less than either. A preserved specimen has been deposited in the Museum of this city.

This Woodpecker is seven inches and a half long, and thirteen broad; the upper part of the head is black; the back barred with twelve white, transversely, semicircular lines, and as many of black, alternately; the cheeks and sides of the neck are white; whole lower parts the same; from the lower mandible, a list of black passes towards the shoulder of the wing, where it is lost in small black spots on each side of the breast; the wings are black, spotted with white; the four middle tail feathers black, the rest white spotted with black; rump black, variegated with white; the vent white, spotted with black; the hairs that cover the nostrils are of a pale cream color; the bill deep slate; but what forms the most distinguishing peculiarity of this bird, is a fine line of vermilion, on each side of the head, seldom occupying more than the edge of a single feather. The female is destitute of this ornament; but in the rest of her plumage differs in nothing from the male. The iris of the eye, in both, was hazel.

The stomachs of all those I opened were filled with small black insects, and fragments of large beetles. The posterior extremities of the tongue reached nearly to the base of the upper mandible.

SPECIES IX. *PICUS TORQUATUS*.

LEWIS'S WOODPECKER.

[Plate XX. Fig. 3.]

OF this very beautiful, and singularly marked, species, I am unable to give any farther account than as relates to its external appearance. Several skins of this species were preserved; all of which I examined with care; and found little or no difference among them, either in the tints or disposition of the colors.

The length of this was eleven inches and a half; the back, wings, and tail, were black, with a strong gloss of green; upper part of the head the same; front, chin, and cheeks, beyond the eyes, a dark rich red; round the neck passes a broad *collar* of white, which spreads over the breast, and looks as if the fibres of the feathers had been silvered; these feathers are also of a particular structure, the fibres being separate, and of a hair-like texture; belly deep vermilion, and of the same strong hair-like feathers, intermixed with silvery ones; vent black; legs and feet dusky, inclining to greenish blue; bill dark horn color.

For a more particular, and, doubtless, a more correct account of this, and the two preceding species,* the reader is referred to General Clark's History of the Expedition, now preparing for the press. The three birds I have here introduced, are but a small part of the valuable collection of new subjects in natural history, discovered, and preserved, amidst a thousand dangers and difficulties, by those two enterprising travellers, whose intrepidity was only equalled by their discretion, and by their active and laborious pursuit of whatever might tend to render their journey useful to science and to their country. It was the request, and particular wish, of Captain Lewis, made to me in person, that I should make drawings of such of the feathered tribes as had been preserved, and were new. That brave soldier, that amiable and excellent man, over whose solitary grave in the wilderness I have since shed tears of affliction, having been cut off in the prime of his life, I hope I shall be pardoned for consecrating this humble note to his memory, until a more able pen shall do better justice to the subject.

* Wilson here alludes to Clark's Crow, and the Louisiana Tanager, both of which are figured in the same plate with Lewis's Woodpecker.

SPECIES X. *PICUS CAROLINUS*.

RED-BELLIED WOODPECKER.

[Plate VII. Fig. 2.]

Picus Carolinus, LINN. *Syst.* I., 174, 10.—*Pic varie de la Jamaïque*, BUFFON, VII., 72, *Pl. Enl.* 597.—*Picus varius medius Jamaicensis*, SLOAN. *Jam.* 299, 15.—*Jamaica Woodpecker*, EDW. 244.—CATESB. I., 19, fig. 2.—*Arct. Zool.* II., No. 161.—LATH. *Syn.* II., 570, 17. *Id.* 571, 17. *A. Id. B.*—*Pic raye de la Louisiane*, BUFF. VII., 73, *Pl. Enl.* 692.

THIS species possesses all the restless and noisy habits so characteristic of its tribe. It is more shy, and less domestic, than the Red-headed Woodpecker, (*P. erythrocephalus*), or any of the other spotted Woodpeckers. It is also more solitary. It prefers the largest, high-timbered woods, and tallest decayed trees of the forest; seldom appearing near the ground, on the fences, or in orchards, or open fields; yet where the trees have been deadened, and stand pretty thick, in fields of Indian corn, as is common in new settlements, I have observed it to be very numerous; and have found its stomach sometimes completely filled with that grain. Its voice is hoarser than any of the others; and its usual note, *chow*, has often reminded me of the barking of a little lap-dog. It is a most expert climber, possessing extraordinary strength in the muscles of its feet and claws, and moves about the body, and horizontal limbs, of the trees, with equal facility in all directions. It rattles, like the rest of the tribe, on the dead limbs, and with such violence as to be heard, in still weather, more than half a mile off; and listens to hear the insects it has alarmed. In the lower side of some lofty branch, that makes a considerable angle with the horizon, the male and female, in conjunction, dig out a circular cavity for their nest, sometimes out of the solid wood, but more generally into a hollow limb, twelve or fifteen inches above where it becomes solid. This is usually performed early in April. The female lays five eggs, of a pure white, or almost semi-transparent; and the young generally make their appearance towards the latter end of May, or beginning of June, climbing up to the higher parts of the tree, being as yet unable to fly. In this situation they are fed for several days, and often become the prey of the Hawks. From seeing the old ones continuing their caresses after this period, I believe that they often, and perhaps always, produce two broods in a season. During the greater part of the summer, the young have the ridge of the

neck and head of a dull brownish ash; and a male of the third year has received his complete colors.

The Red-bellied Woodpecker is ten inches in length, and seventeen in extent; the bill is nearly an inch and a half in length, wedged at the point, but not quite so much grooved as some others, strong, and of a bluish-black color; the nostrils are placed in one of these grooves, and covered with curving tufts of light brown hairs, ending in black points; the feathers on the front stand more erect than usual, and are of a dull yellowish red; from thence along the whole upper part of the head and neck, down the back, and spreading round to the shoulders, is of the most brilliant golden glossy red; the whole cheeks, line over the eye, and under side of the neck, is a pale buff color, which on the breast and belly deepens into a yellowish ash, stained on the belly with a blood red; the vent and thigh feathers are dull white, marked down their centres with heart-formed, and long arrow-pointed, spots of black. The back is black, crossed with transverse curving lines of white; the wings are also black, the lesser wing-coverts circularly tipped, and the whole primaries and secondaries beautifully crossed with bars of white, and also tipped with the same; the rump is white, interspersed with touches of black; the tail-coverts white near their extremities; the tail consists of ten feathers, the two middle ones black, their interior webs or vanes white, crossed with diagonal spots of black; these, when the edges of the two feathers just touch, coincide, and form heart-shaped spots; a narrow sword-shaped line of white runs up the exterior side of the shafts of the same feathers; the next four feathers, on each side, are black, the outer edges of the exterior ones barred with black and white, which, on the lower side, seems to cross the whole vane as in the figure; the extremities of the whole tail, except the outer feather, are black, sometimes touched with yellowish or cream color; the legs and feet are of a bluish green, and the iris of the eye red. The tongue, or *os hyoides*, passes up over the hind-head, and is attached by a very elastic retractile membrane, to the base of the right nostril; the extremity of the tongue is long, horny, very pointed, and thickly edged with barbs, the other part of the tongue is worm-shaped. In several specimens, I found the stomach nearly filled with pieces of a species of fungus, that grows on decayed wood, and in all with great numbers of insects, seeds, gravel, &c. &c. The female differs from the male, in having the crown, for an inch, of a fine ash, and the black not so intense; the front is reddish as in the male, and the whole hind-head, down to the back, likewise of the same rich red as his. In the bird, from which this latter description was taken, I found a large cluster of minute eggs, to the number of fifty or upwards, in the beginning of the month of March.

This species inhabits a large extent of country, in all of which it

seems to be resident, or nearly so. I found them abundant in Upper Canada, and in the northern parts of the state of New York, in the month of November; they also inhabit the whole Atlantic states as far as Georgia, and the southern extremity of Florida; as well as the interior parts of the United States, as far west as Chilicothe, in the state of Ohio, and, according to Buffon, Louisiana. They are said to be the only Woodpeckers found in Jamaica; though I question whether this be correct; and to be extremely fond of the capsicum, or Indian pepper.* They are certainly much hardier birds, and capable of subsisting on coarser, and more various fare, and of sustaining a greater degree of cold, than several others of our Woodpeckers. They are active and vigorous; and being almost continually in search of insects, that injure our forest trees, do not seem to deserve the injurious epithets that almost all writers have given them. It is true, they frequently perforate the timber in pursuit of these vermin, but this is almost always in dead and decaying parts of the tree, which are the nests and nurseries of millions of destructive insects. Considering matters in this light I do not think their services overpaid by all the ears of Indian corn they consume; and would protect them within my own premises as being more useful than injurious.

GENUS XXV. SITTA. NUTHATCH.

SPECIES I. *S. CAROLINENSIS.*

WHITE-BREASTED NUTHATCH.

[Plate II. Fig. 3.]

Sitta Carolinensis, BRISS. III., p. 596.—CATESB. I., 22, fig. 2.—LATH. I., 650, B.—*Sitta Europea*, Gray black-capped Nuthatch, BARTRAM, p. 289.

THE bill of this bird is black, the upper mandible straight, the lower one rounded upwards, towards the point, and white near the base; the nostrils are covered with long curving black hairs; the tongue is of a horny substance, and ending in several sharp points; the general color above is of a light blue or lead; the tail consists of twelve feathers, the two middle ones lead color, the next three are black, tipped with white for one-tenth, one-fourth, and half of an inch; the two next are also black, tipped half an inch or more with white, which runs nearly an inch up their exterior edges, and both have the white at the tips touched with black; the legs are of a purple or dirty flesh color; the

* Sloane.

hind claw is much the largest; the inside of the wing at the bend is black; below this is a white spot spreading over the roots of the first five primaries; the whole length is five inches and a half, extent eleven.

Mr. Pennant considers this bird as a mere variety of the European Nuthatch; but if difference in size, color and habits, be sufficient characteristics of a distinct species, this bird is certainly entitled to be considered as such. The head and back of the European species is of a uniform bluish gray; the upper parts of the head, neck, and shoulders of ours are a deep black, glossed with green; the breast and belly of the former is a dull orange, with streaks of chestnut, those parts in the latter are pure white. The European has a line of black passing through the eye, half way down the neck; the present species has nothing of the kind; but appears with the inner webs of the three shortest secondaries, and the primaries, of a jet black; the latter tipped with white, and the vent and lower parts of the thighs of a rust color; the European therefore, and the present, are evidently two distinct and different species.

This bird builds its nest early in April, in the hole of a tree; in a hollow rail in the fence; and sometimes in the wooden cornice under the eaves; and lays five eggs, of a dull white, spotted with brown at the greater end. The male is extremely attentive to the female while sitting, supplying her regularly with sustenance, stopping frequently at the mouth of the hole, calling and offering her what he has brought, in the most endearing manner. Sometimes he seems to stop merely to inquire how she is, and to lighten the tedious moments with his soothing chatter. He seldom rambles far from the spot, and when danger appears, regardless of his own safety, he flies instantly to alarm her. When both are feeding on the trunk of the same tree, or of adjoining ones, he is perpetually calling on her; and, from the momentary pause he makes, it is plain that he feels pleased to hear her reply.

The White-breasted Nuthatch is common almost everywhere in the woods of North America; and may be known at a distance by the notes *quank, quank*, frequently repeated, as he moves upward and down, in spiral circles, around the body, and larger branches, of the tree, probing behind the thin scaly bark of the white-oak, and shelling off considerable pieces of it, in search after spiders, ants, insects and their larvæ. He rests and roosts with his head downwards; and appears to possess a degree of curiosity not common to many birds; frequently descending, very silently, within a few feet of the root of the tree where you happen to stand, stopping, head downward, stretching out his neck in a horizontal position, as if to reconnoitre your appearance; and after several minutes of silent observation, wheeling round, he again mounts, with fresh activity, piping his unisons as before. Strongly attached to his native forests, he seldom forsakes them; and amidst the

rigors of the severest winter weather, his note is still heard in the bleak and leafless woods, and among the howling branches. Sometimes the rain, freezing as it falls, encloses every twig, and even the trunk of the tree, in a hard transparent coat or shell of ice. On these occasions, I have observed his anxiety and dissatisfaction, at being with difficulty able to make his way along the smooth surface; at these times generally abandoning the trees, gleaning about the stables around the house, mixing among the fowls, entering the barn, and examining the beams and rafters, and every place where he may pick up a subsistence.

The name Nuthatch has been bestowed on this family of birds from their supposed practice of breaking nuts by repeated hatchings, or hammerings with their bills. Soft-shelled nuts, such as chestnuts, chinkopins, and hazel-nuts, they may probably be able to demolish, though I have never yet seen them so engaged; but it must be rather in search of maggots that sometimes breed there, than for the kernel. It is however said that they lay up a large store of nuts for winter; but as I have never either found any of their magazines, or seen them collecting them, I am inclined to doubt the fact. From the great numbers I have opened at all seasons of the year, I have every reason to believe that ants, small seeds, insects and their larvæ, form their chief subsistence, such matters alone being uniformly found in their stomachs. Neither can I see what necessity they could have to circumambulate the trunks of trees, with such indefatigable and restless diligence, while bushels of nuts lay scattered round their roots. As to the circumstance mentioned by Dr. Plott, of the European Nuthatch "putting its bill into a crack in the bough of a tree, and making such a violent sound, as if it was rending asunder," this, if true, would be sufficient to distinguish it from the species we have been just describing, which possesses no such faculty. The female differs little from the male in color, chiefly in the black being less deep on the head and wings.

SPECIES II. *SITTA VARIA*.

RED-BELLIED NUTHATCH.

[Plate II. Fig. 4.]

Sitta Canadensis, BRISS. III., p. 592.—*Small Nuthatch*, LATH. I., 651.—*Sitta Varia*, BART. p. 289.

THIS bird is much smaller than the last, measuring only four inches and a half in length, and eight inches in extent. In the form of its bill, tongue, nostrils, and in the color of the back and tail-feathers, it exactly agrees with the former; the secondaries are not relieved with the deep black of the other species, and the legs, feet, and claws, are of a dusky greenish yellow; the upper part of the head is black, bounded by a stripe of white passing round the frontlet; a line of black passes through the eye to the shoulder; below this is another line of white; the chin is white; the other under parts a light rust color; the primaries and whole wings a dusky lead color. The breast and belly of the female is not of so deep a brown, and the top of the head less intensely black.

This species is migratory, passing from the north, where they breed, to the southern states in October, and returning in April. Its voice is sharper, and its motions much quicker than those of the other, being so rapid, restless and small, as to make it a difficult point to shoot one of them. When the two species are in the woods together, they are easily distinguished by their voices, the note of the least being nearly an octave sharper than that of its companion, and repeated more hurriedly. In other respects their notes are alike unmusical and monotonous. Approaching so near to each other in their colors and general habits, it is probable that their mode of building, &c., may be also similar.

Buffon's *Torchepot du Canada*, Canada Nuthatch of other European writers, is either a young bird of the present species, in its imperfect plumage, or a different sort that rarely visits the United States. If the figure (Pl. Enl. 623) be correctly colored, it must be the latter, as the tail and head appear of the same bluish gray or lead color as the back. The young birds of this species, it may be observed, have also the crown of a lead color during the first season; but the tail-feathers are marked nearly as those of the old ones. Want of precision in the figures and descriptions of these authors, makes it difficult to determine; but I think it very probable, that *Sitta Jamaicensis minor*, Briss.; the Least

Loggerhead of Brown, *Sitta Jamaicensis*, Linn.; and *Sitta Canadensis* of Linn., Gmel., and Briss., are names that have been originally applied to different individuals of the species we are now describing.

This bird is particularly fond of the seeds of pine-trees. You may traverse many thousand acres of oak, hickory and chestnut woods, during winter, without meeting with a single individual; but no sooner do you enter among the pines than, if the air be still, you have only to listen for a few moments, and their note will direct you where to find them. They usually feed in pairs, climbing about in all directions, generally accompanied by the former species, as well as by the Black-capped Titmouse, *Parus atricapillus*, and the Crested Titmouse, *Parus bicolor*, and not unfrequently by the small Spotted Woodpecker, *Picus pubescens*; the whole company proceeding regularly from tree to tree through the woods, like a corps of pioneers; while in a calm day the rattling of their bills, and the rapid motions of their bodies, thrown like so many tumblers and rope-dancers into numberless positions, together with the peculiar chatter of each, are altogether very amusing; conveying the idea of hungry diligence, bustle and activity. Both these little birds, from the great quantity of destructive insects and larvæ they destroy, both under the bark, and among the tender buds of our fruit and forest trees, are entitled to, and truly deserving of, our esteem and protection.

SPECIES III. *SITTA PUSILLA*.

BROWN-HEADED NUTHATCH.

[Plate XV. Fig. 2.]

Sitta pusilla, LATH. Ind. Orn. 263.—*Small Nuthatch*, CATESBY, Car. I., 22, upper figure.—*La Petite Sittelle à tête brune*, BUFF. V., 474.—BRISS. III., 598.—LATH. I., 651, C.

THIS bird is chiefly an inhabitant of Virginia, and the southern states, and seems particularly fond of pine-trees. I have never yet discovered it either in Pennsylvania, or any of the regions north of this. Its manners are very similar to those of the Red-bellied Nuthatch, represented in Plate II. of this work; but its notes are more shrill and chirping. In the countries it inhabits it is a constant resident; and in winter associates with parties, of eight or ten, of its own species, who hunt busily from tree to tree, keeping up a perpetual screeeping. It is a frequent companion of the Woodpecker figured beside it; and you rarely find the one in the woods without observing or hearing the other

not far off. It climbs equally in every direction, on the smaller branches, as well as on the body of the tree, in search of its favorite food, small insects and their larvæ. It also feeds on the seeds of the pine-tree. I have never met with its nest.

This species is four inches and a quarter long, and eight broad; the whole upper part of the head and neck, from the bill to the back, and as far down as the eyes, is light brown, or pale ferruginous, shaded with darker touches, with the exception of a spot of white near the back; from the nostril through the eyes the brown is deepest, making a very observable line there; the chin, and sides of the neck, under the eyes, are white; the wings dusky; the coverts and three secondaries next the body a slate or lead color; which is also the color of the rest of the upper parts; the tail is nearly even at the end, the two middle feathers slate color, the others black, tipped with slate, and crossed diagonally with a streak of white; legs and feet dull blue; upper mandible black, lower blue at the base; iris hazel. The female differs in having the brown on the head rather darker, and the line through the eye less conspicuous.

This diminutive bird is little noticed in history, and what little has been said of it, by Europeans, is not much to its credit. It is characterized as "a very stupid bird," which may easily be knocked down, from the sides of the tree, with one's cane. I confess I found it a very dexterous climber; and so rapid and restless in its motions, as to be shot with difficulty. Almost all very small birds seem less suspicious of man than large ones; but that activity and restless diligence should constitute *stupidity*, is rather a new doctrine. Upon the whole, I am of opinion, that a person who should undertake the destruction of these birds, at even a dollar a head for all he knocked down with his cane, would run a fair chance of starving by his profession.

GENUS XXIV. *ALCEDO*. KINGFISHER.

SPECIES. *A. ALCYON*.

BELTED KINGFISHER.

[Plate XXIII. Fig. 1—Female.]

BARTRAM, p. 289.—TURTON, p. 278.*

THIS is a general inhabitant of the banks and shores of all our fresh-water rivers from Hudson's Bay to Mexico; and is the only species of its tribe found within the United States. This last circumstance, and its characteristic appearance, make it as universally known here, as its elegant little brother, the common Kingfisher of Europe, is in Britain. Like the love-lorn swains of whom poets tell us, he delights in murmuring streams and falling waters; not however merely that they may soothe his ear, but for a gratification somewhat more substantial. Amidst the roar of the cataract, or over the foam of a torrent, he sits perched upon an overhanging bough, glancing his piercing eye in every direction below for his scaly prey, which with a sudden circular plunge he sweeps from their native element, and swallows in an instant. His voice, which is not unlike the twirling of a watchman's rattle, is naturally loud, harsh, and sudden; but is softened by the sound of the brawling streams and cascades among which he generally rambles. He courses along the windings of the brook or river, at a small height above the surface, sometimes suspending himself by the rapid action of his wings, like certain species of Hawks, ready to pounce on the fry below; now and then settling on an old dead overhanging limb to reconnoitre. Mill-dams are particularly visited by this feathered fisher; and the sound of his pipe is as well known to the miller as the rattling of his own hopper. Rapid streams, with high perpendicular banks, particularly if they be of a hard clayey or sandy nature, are also favorite places of resort for this bird; not only because in such places the small fish are more exposed to view; but because those steep and dry banks are the chosen situations for his nest. Into these he digs with bill and claws, horizontally, sometimes to the extent of four or five feet, at the distance of a foot or two from the surface. The few materials he takes in are not always placed at the

* We add the following synonyms:—*Alcedo alcyon*, LINN. *Syst.* ed. 10, vol. i., 115.—GMEL. *Syst.* i., 451.—LATH. *Ind. Orn.* 257.—CATESBY, i., 69.—BUFF. *Pl. Enl.* 593-715.

extremity of the hole; that he and his mate may have room to turn with convenience. The eggs are five, pure white, and the first brood usually comes out about the beginning of June, and sometimes sooner, according to that part of the country where they reside. On the shores of Kentucky river, near the town of Frankfort, I found the female sitting early in April. They are very tenacious of their haunts, breeding for several successive years in the same hole, and do not readily forsake it, even though it be visited. An intelligent young gentleman informed me, that having found where a Kingfisher built, he took away its eggs, from time to time, leaving always one behind, until he had taken no less than eighteen from the same nest. At some of these visits, the female being within, retired to the extremity of the hole while he withdrew the egg, and next day, when he returned, he found she had laid again as usual.

The fabulous stories related by the ancients of the nest, manner of hatching, &c., of the Kingfisher, are too trifling to be repeated here. Over the winds and the waves the humble Kingfishers of our days, at least the species now before us, have no control. Its nest is neither constructed of glue nor fish-bones; but of loose grass and a few feathers. It is not thrown on the surface of the water to float about, with its proprietor, at random; but snugly secured from the winds and the weather in the recesses of the earth; neither is its head or its feathers believed, even by the most illiterate of our clowns and seamen, to be a charm for love, a protection against witchcraft, or a security for fair weather. It is neither venerated like those of the Society Isles, nor dreaded like those of some other countries; but is considered merely as a bird that feeds on fish; is generally fat; relished by *some* as good eating; and is now and then seen exposed for sale in our markets.

Though the Kingfisher generally remains with us, in Pennsylvania, until the commencement of cold weather, it is seldom seen here in winter; but returns to us early in April. In North and South Carolina, I observed numbers of these birds in the months of February and March. I also frequently noticed them on the shores of the Ohio, in February, as high up as the mouth of the Muskingum.

I suspect this bird to be a native of the Bahama Islands, as well as of our continent. In passing between these isles and the Florida shore, in the month of July, a Kingfisher flew several times round our ship, and afterwards shot off to the south.

The length of this species is twelve inches and a half, extent twenty; back and whole upper parts a light bluish slate color; round the neck is a collar of pure white, which reaches before to the chin; head large, crested, the feathers long and narrow, black in the centre, and generally erect; the shafts of all the feathers, except the white plumage, are black; belly and vent white; sides under the wings variegated with

blue; round the upper part of the breast passes a band of blue, interspersed with some light brown feathers; before the eye is a small spot of white, and another immediately below it; the bill is three inches long, from the point to the slit of the mouth, strong, sharp pointed, and black, except near the base of the lower mandible, and at the tip, where it is of a horn color; primaries, and interior webs of the secondaries, black, spotted with white; the interior vanes of the tail feathers elegantly spotted with white on a jet black ground; lower side light colored; exterior vanes blue; wing-coverts and secondaries marked with small specks of white; legs extremely short; when the bird perches it generally rests on the lower side of the second joint, which is thereby thick and callous; claws stout and black; whole leg of a dirty yellowish color; above the knee bare of feathers for half an inch; the two exterior toes united together for nearly their whole length.

The female is sprinkled all over with specks of white; the band of blue around the upper part of the breast is nearly half reddish brown; and a little below this passes a band of bright reddish bay, spreading on each side under the wings. The blue and rufous feathers on the breast are strong like scales. The head is also of a much darker blue than the back; and the white feathers on the chin and throat of an exquisite fine glossy texture, like the most beautiful satin.

GENUS XXIX. CERTHIA. CREEPER.

SPECIES I. *C. FAMILIARIS*.

BROWN CREEPER.

[Plate VIII. Fig. 1, Male.]

Little Brown variegated Creeper, BARTRAM, 289.*

THIS bird agrees so nearly with the common European Creeper (*Certhia familiaris*), that I have little doubt of their being one and the same species. I have examined, at different times, great numbers of these birds, and have endeavored to make a correct drawing of the male, that Europeans and others may judge for themselves; and the excellent artist to whom the plate was intrusted has done his part so well in the engraving, as to render the figure a perfect resemblance of the living original.

* We add the following synonyms: *Certhia familiaris*, LINN. *Syst.* ed. 10, vol. I., 118.—GMEL. *Syst.* I., 469.—LATH. *Ind. Orn.* 280.—*Le Grimpereau*, BUFF. *Pl Enl.* 681.

The Brown Creeper is an extremely active and restless little bird. In winter it associates with the small Spotted Woodpecker, Nuthatch, Titmouse, &c., and often follows in their rear, gleaning up those insects which their more powerful bills had alarmed and exposed; for its own slender incurvated bill seems unequal to the task of penetrating into even the decayed wood, though it may enter into holes and behind scales of the bark. Of the Titmouse there are generally present the individuals of a whole family, and seldom more than one or two of the others. As the party advances through the woods, from tree to tree, our little gleaner seems to observe a good deal of regularity in his proceedings; for I have almost always observed that he alights on the body near the root of the tree, and directs his course with great nimbleness upwards to the higher branches, sometimes spirally, often in a direct line, moving rapidly and uniformly along, with his tail bent to the tree, and not in the hopping manner of the Woodpecker, whom he far surpasses in dexterity of climbing, running along the lower side of the horizontal branches with surprising ease. If any person be near when he alights, he is sure to keep the opposite side of the tree, moving round as he moves, so as to prevent him from getting more than a transient glimpse of him. The best method of outwitting him, if you are alone, is, as soon as he alights and disappears behind the trunk, take your stand behind an adjoining one, and keep a sharp lookout twenty or thirty feet up the body of the tree he is upon, for he generally mounts very regularly to a considerable height, examining the whole way as he advances. In a minute or two, hearing all still, he will make his appearance on one side or other of the tree, and give you an opportunity of observing him.

These birds are distributed over the whole United States; but are most numerous in the Western and Northern States, and particularly so in the depth of the forests, and in tracts of large timbered woods, where they usually breed; visiting the thicker settled parts of the country in fall and winter. They are more abundant in the flat woods of the lower district of New Jersey than in Pennsylvania; and are frequently found among the pines. Though their customary food appears to consist of those insects of the coleopterous class, yet I have frequently found in their stomachs the seeds of the pine-tree, and fragments of a species of fungus that vegetates in old wood, with generally a large proportion of gravel. There seems to be scarcely any difference between the colors and markings of the male and female. In the month of March I opened eleven of these birds, among whom were several females, as appeared by the clusters of minute eggs with which their ovaries were filled, and also several well-marked males, and, on the most careful comparison of their plumage, I could find little or no difference; the colors indeed were rather more vivid and intense in some

than in others; but sometimes this superiority belonged to a male, sometimes to a female, and appeared to be entirely owing to difference in age. I found, however, a remarkable and very striking difference in their sizes; some were considerably larger, and had the bill at least one-third longer and stronger than the others, and these I uniformly found to be males. I also received two of these birds from the country bordering on the Cayuga lake, in New York state, from a person who killed them from the tree in which they had their nest. The male of this pair had the bill of the same extraordinary size with several others I had examined before, the plumage in every respect the same. Other males, indeed, were found at the same time of the usual size. Whether this be only an accidental variety, or whether the male, when full grown, be naturally so much larger than the female (as is the case with many birds), and takes several years in arriving at his full size, I cannot positively determine, though I think the latter most probable.

The Brown Creeper builds his nest in the hollow trunk or branch of a tree, where the tree has been shivered, or a limb broken off, or where squirrels or Woodpeckers have wrought out an entrance: for nature has not provided him with the means of excavating one for himself. I have known the female begin to lay by the seventeenth of April. The eggs are usually seven, of a dull cinereous, marked with small dots of reddish yellow, and streaks of dark brown. The young come forth with great caution, creeping about long before they venture on wing. From the early season at which they begin to build, I have no doubts of their raising two broods during summer, as I have seen the old ones entering holes late in July.

The length of this bird is five inches, and nearly seven from the extremity of one wing to that of the other; the upper part of the head is of a deep brownish black; the back brown, and both streaked with white, the plumage of the latter being of a loose texture, with its filaments not adhering; the white is in the centre of every feather, and is skirted with brown; lower part of the back, rump, and tail-coverts, rusty brown, the last minutely tipped with whitish; the tail is as long as the body, of a light drab color, with the inner webs dusky, and consists of twelve quills each sloping off and tapering to a point in the manner of the Woodpeckers, but proportionably weaker in the shafts; in many specimens the tail was very slightly marked with transverse undulating waves of dusky, scarce observable; the two middle feathers the longest, the others on each side shortening by one-sixth of an inch to the outer one; the wing consists of nineteen feathers, the first an inch long, the fourth and fifth the longest, of a deep brownish black, and crossed about its middle with a curving band of rufous white, a quarter of an inch in breadth, marking ten of the quills; below this the quills are exteriorly edged to within a little of their tips with rufous

white, and tipped with white; the three secondaries next the body are dusky white on their inner webs, tipped on the exterior margin with white, and above that alternately streaked laterally with black and dull white; the greater and lesser wing-coverts are exteriorly tipped with white, the upper part of the exterior edges of the former rufous white; the line over the eye and whole lower parts are white, a little brownish toward the vent, but on the chin and throat pure, silky and glistening; the white curves inwards about the middle of the neck; the bill is half an inch long, slender, compressed sidewise, bending downwards, tapering to a point, dusky above and white below; the nostrils are oblong, half covered with a convex membrane, and without hairs or small feathers; the inside of the mouth is reddish; the tongue tapering gradually to a point, and horny towards the tip; the eye is dark hazel; the legs and feet a dirty clay color; the toes placed three before and one behind, the two outer ones connected with the middle one to the first joint; the claws rather paler, large, almost semicircular, and extremely sharp pointed; the hind claw the largest. The figure in the plate represents a male of the usual size in its exact proportions, and, but for the satisfaction of foreigners, might have rendered the whole of this prolix description unnecessary.

SPECIES II. *CERTHIA MACULATA*.*

BLACK AND WHITE CREEPER.

[Plate XIX. Fig. 3.]

EDWARDS, *pl.* 300.—*White poll Warbler*, *Arct. Zool.* 402, No. 293.—*Le figuier varié*, *BUFF.* v, 305.—*LATH.* II., 488.—*TURTON*, I., p. 603.

THIS nimble and expert little species seldom perches on the small twigs; but circumambulates the trunk, and larger branches, in quest of ants and other insects, with admirable dexterity. It arrives in Pennsylvania, from the south, about the twentieth of April, the young begin to fly early in July; and the whole tribe abandon the country about the beginning of October. Sloane describes this bird as an inhabitant of the West India Islands, where it probably winters. It was first figured by Edwards from a dried skin sent him by Mr. William Bartram, who gave it its present name. Succeeding naturalists have classed it with the warblers; a mistake which I have endeavored to rectify.

The genus of Creepers comprehends about thirty different species, many of which are richly adorned with gorgeous plumage; but, like

* Linnæus placed this bird in his genus *Motacilla*, and Latham arranged it in *Sylvia*. It does not belong to the genus *Certhia* as at present restricted.

their congenial tribe the Woodpeckers, few of them excel in song; their tongues seem better calculated for extracting noxious insects from the bark of trees, than for trilling out sprightly airs; as the hardened hands of the husbandman are better suited for clearing the forest or guiding the plough, than dancing among the keys of a forte-piano. Which of the two is the most honorable and useful employment is not difficult to determine. Let the farmer, therefore, respect this little bird for its useful qualities, in clearing his fruit and forest trees from destructive insects; though it cannot serenade him with its song.

The length of this species is five inches and a half, extent seven and a half; crown white, bordered on each side with a band of black, which is again bounded by a line of white passing over each eye, below this is a large spot of black covering the ear feathers; chin and throat black; wings the same, crossed transversely by two bars of white; breast and back streaked with black and white; tail, upper and also under coverts, black, edged and bordered with white; belly white; legs and feet dirty yellow; hind claw the longest, and all very sharp pointed; bill a little compressed sidewise, slightly curved, black above, paler below; tongue long, fine-pointed, and horny at the extremity. These last circumstances, joined to its manners, characterize it, decisively, as a creeper.

The female and young birds of the first year want the black on the throat, having that part of a grayish white.

SPECIES III. *CERTHIA CAROLINIANA*.*

GREAT CAROLINA WREN.

[Plate XII. Fig. 5.]

Le Roitelet de la Louisiane, Pl. Enl. 730, Fig. 1.—LATH. *Syn.* VII., p. 507, var. *B*.
—*Le Troglodytes de la Louisiane*, BUFF. *Ois.* v., p. 361.—*Motacilla Caroliniana* (*regulus magnus*), BARTRAM, p. 291.†

THIS is another of those equivocal species that so often occur to puzzle the naturalist. The general appearance of this bird is such, that the most illiterate would at first sight call it a *Wren*; but the common *Wren* of Europe, and the *Winter Wren* of the United States, are both warblers, judging them according to the simple principle of Linnæus. The present species, however, and the following (the *Marsh Wren*),

* This and the two following species were placed by Latham in the genus *Sylvia*, whence they have been removed by Wilson, without, apparently, sufficient reason.

† We add the following synonymes: *Motacilla troglodytes*, var. γ GMEL. vol. I., p. 994.—*Sylvia ludoviciana*, LATH. *Index Orn.* sp. 150.

though possessing great family likeness to those above mentioned, are decisively *Creepers*, if the bill, the tongue, nostrils and claws are to be the criteria by which we are to class them.

The color of the plumage of birds is but an uncertain and inconstant guide; and though in some cases it serves to furnish a trivial or specific appellation, yet can never lead us to the generic one. I have, therefore, notwithstanding the general appearance of these birds, and the practice of former ornithologists, removed them to the genus *Certhia*, from that of *Motacilla*, where they have hitherto been placed.

This bird is frequently seen, early in May, along the shores of the Delaware, and other streams that fall into it on both sides, thirty or forty miles below Philadelphia; but is rather rare in Pennsylvania. This circumstance is a little extraordinary; since, from its size, and stout make, it would seem more capable of braving the rigors of a northern climate than any of the others. It can, however, scarcely be called migratory. In the depth of winter I found it numerous in Virginia along the shores and banks of the James river and its tributary streams, and thence as far south as Savannah. I also observed it on the banks of the Ogechee; it seemed to be particularly attached to the borders of cypress swamps, deep hollows, among piles of old decaying timber, and by rivers and small creeks. It has all the restless jerking manners of the Wrens, skipping about with great nimbleness, hopping into caves, and disappearing into holes and crevices like a rat, for several minutes, and then reappearing in another quarter. It occasionally utters a loud, strong, and singular twitter, resembling the word *chirrup*, dwelling long and strongly on the first syllable; and so loud that I at first mistook it for the Red-bird, *L. cardinalis*. It has also another chant, rather more musical, like "*Sweet William, Sweet William,*" much softer than the former. Though I cannot positively say, from my own observations, that it builds in Pennsylvania, and have never yet been so fortunate as to find its nest; yet, from the circumstance of having several times observed it within a quarter of a mile of the Schuylkill, in the month of August, I have no doubt that some few breed here, and think it highly probable that Pennsylvania and New York may be the northern boundaries of their visits, having sought for it in vain among the states of New England. Its food appears to consist of those insects and their larvæ that frequent low damp caves, piles of dead timber, old roots, projecting banks of creeks, &c., &c. It certainly possesses the faculty of seeing in the dark better than day birds usually do; for I have observed it exploring the recesses of caves, where a good acute eye must have been necessary to enable it to distinguish its prey.

In the Southern States, as well as in Louisiana, this species is generally *resident*; though in summer they are more numerous, and are found rather farther north than in winter. In this last season their chirrup-

ing is frequently heard in gardens soon after daybreak, and along the borders of the great rivers of the Southern States, not far from the sea-coast.

The Great Wren of Carolina is five inches and a quarter long, and seven broad; the whole upper parts are reddish brown, the wings and tail being barred with black; a streak of yellowish white runs from the nostril over the eye, down the side of the neck, nearly to the back; below that a streak of reddish brown extends from the posterior part of the eye to the shoulder; the chin is yellowish white; the breast, sides and belly a light rust color, or reddish buff; vent feathers white, neatly barred with black; in the female plain; wing coverts minutely tipped with white; legs and feet flesh colored, and very strong; bill three-quarters of an inch long, strong, a little bent, grooved and pointed, the upper mandible bluish black, lower light blue; nostrils oval, partly covered with a prominent convex membrane; tongue pointed and slender; eyes hazel; tail cuneiform, the two exterior feathers on each side three quarters of an inch shorter, whitish on their exterior edges, and touched with deeper black; the same may be said of the three outer primaries. The female wants the white on the wing coverts; but differs little in color from the male.

In this species I have observed a circumstance common to the House and Winter Wren, but which is not found in the Marsh Wren; the feathers of the lower part of the back, when parted by the hand, or breath, appear spotted with white, being at bottom deep ash, reddish brown at the surface, and each feather with a spot of white between these two colors. This, however, cannot be perceived without parting the feathers.

SPECIES IV. *CERTHIA PALUSTRIS*.

MARSH WREN.

[Plate XII. Fig. 4.]

Motacilla palustris (regulus minor), BARTRAM, p. 291.

THIS obscure but spirited little species has been almost overlooked by the naturalists of Europe, as well as by those of its own country. The singular attitude in which it is represented will be recognised by those acquainted with its manners, as one of its most common and favorite ones, while skipping through among the reeds and rushes. The Marsh Wren arrives in Pennsylvania about the middle of May, or as soon as the reeds and a species of *Nymphaea*, usually called splatter-docks, which grow in great luxuriance along the tide water of our rivers, are sufficiently high to shelter it. To such places it almost wholly limits its excursions, seldom venturing far from the river. Its food consists of flying insects, and their larvæ, and a species of green grasshoppers that inhabit the reeds. As to its notes it would be mere burlesque to call them by the name of song. Standing on the reedy borders of the Schuylkill or Delaware, in the month of June, you hear a low crackling sound, something similar to that produced by air bubbles forcing their way through mud or boggy ground when trod upon; this is the *song* of the Marsh Wren. But as among the human race it is not given to one man to excel in everything, and yet each, perhaps, has something peculiarly his own; so among birds we find a like distribution of talents and peculiarities. The little bird now before us, if deficient and contemptible in singing, excels in the art of *design*, and constructs a nest, which, in durability, warmth and convenience, is scarcely inferior to one, and far superior to many, of its more musical brethren. This is formed outwardly of wet rushes mixed with mud, well intertwined, and fashioned into the form of a cocoa nut. A small hole is left two-thirds up, for entrance, the upper edge of which projects like a pent house over the lower, to prevent the admission of rain. The inside is lined with fine soft grass, and sometimes feathers; and the outside, when hardened by the sun, resists every kind of weather. This nest is generally suspended among the reeds, above the reach of the highest tides, and is tied so fast in every part to the surrounding reeds, as to bid defiance to the winds and the waves. The eggs are

usually six, of a dark fawn color, and very small. The young leave the nest about the twentieth of June, and they generally have a second brood in the same season.

The size, general color, and habit of this bird of erecting its tail, gives it, to a superficial observer, something of the appearance of the common House Wren, represented in Plate VIII. of this work; and still more that of the Winter Wren, figured in the same plate; but with the former of these it never associates; and the latter has left us some time before the Marsh Wren makes his appearance. About the middle of August they begin to go off, and on the first of September very few of them are to be seen. How far north the migrations of this species extend I am unable to say; none of them to my knowledge winter in Georgia, or any of the Southern States.

The Marsh Wren is five inches long, and six in extent; the whole upper parts are dark brown, except the upper part of the head, back of the neck, and middle of the back, which are black, the two last streaked with white; the tail is short, rounded, and barred with black; wings slightly barred; a broad strip of white passes over the eye half way down the neck; the sides of the neck are also mottled with touches of a light clay color on a whitish ground; whole under parts pure silvery white, except the vent, which is tinged with brown; the legs are light brown; the hind claw large, semicircular, and very sharp; bill slender, slightly bent; nostrils prominent; tongue narrow, very tapering, sharp pointed, and horny at the extremity; eye hazel. The female almost exactly resembles the male in plumage.

From the above description, and a view of the figure, the naturalist will perceive that this species is truly a *Certhia* or Creeper; and indeed its habits confirm this, as it is continually climbing along the stalks of reeds and other aquatic plants, in search of insects.

GENUS XXX. TROCHILUS. HUMMING BIRD.

SPECIES. *T. COLUBRIS.*

HUMMING BIRD.

[Plate X. Figs. 3, 4.]

Trochilus colubris. LINN. *Syst.* I., p. 191, No. 12.—*L' Oiseau mouche à gorge rouge de la Caroline*, BRISS. *Orn.* III., p. 716, No. 13, t. 36, fig. 6.—*Le Rubis*, BUFF. *Ois.* VI., p. 13.—*Humming Bird*, CATESB. *Car.* I., 65.—*Red-throated Humming Bird*, EDW. I., 38, male and female.—LATH. *Syn.* II., 769, No. 35.

NATURE in every department of her works seems to delight in variety; and the present subject of our history is almost as singular for its minuteness, beauty, want of song and manner of feeding, as the Mocking-bird is for unrivalled excellence of notes, and plainness of plumage. Though this interesting and beautiful genus of birds comprehends upwards of seventy species, all of which, with a very few exceptions, are natives of America and its adjacent islands, it is yet singular, that the species now before us should be the only one of its tribe that ever visits the territory of the United States.

According to the observations of my friend Mr. Abbot, of Savannah, in Georgia, who has been engaged these thirty years in collecting and drawing subjects of natural history in that part of the country, the Humming Bird makes its first appearance there, from the south, about the twenty-third of March; two weeks earlier than it does in the county of Burke, sixty miles higher up the country towards the interior; and at least five weeks sooner than it reaches this part of Pennsylvania. As it passes on to the northward as far as the interior of Canada, where it is seen in great numbers,* the wonder is excited how so feebly constructed and delicate a little creature can make its way over such extensive regions of lakes and forests, among so many enemies, all its superiors in strength and magnitude. But its very *minuteness*, the rapidity of its flight, which almost eludes the eye, and that admirable instinct, reason, or whatever else it may be called, and daring courage which Heaven has implanted in its bosom, are its guides and protectors. In these we may also perceive the reason, why an all-wise Providence has made this little hero an exception to a rule which prevails almost

* Mr. M'Kenzie speaks of seeing a "beautiful Humming Bird" near the head of the Unjigah or Peace river, in lat. 54°; but has not particularized the species.

universally through nature, viz., that the smallest species of a tribe are the most prolific. The Eagle lays one, sometimes two, eggs; the Crow five; the Titmouse seven or eight; the small European Wren fifteen; the Humming-bird *two*: and yet this latter is abundantly more numerous in America than the Wren is in Europe.

About the twenty-fifth of April, the Humming Bird usually arrives in Pennsylvania; and about the tenth of May begins to build its nest. This is generally fixed on the upper side of a horizontal branch, not among the twigs, but on the body of the branch itself. Yet I have known instances where it was attached by the side to an old moss-grown trunk; and others where it was fastened on a strong rank stalk, or weed, in the garden; but these cases are rare. In the woods it very often chooses a white oak sapling to build on; and in the orchard, or garden, selects a pear-tree for that purpose. The branch is seldom more than ten feet from the ground. The nest is about an inch in diameter, and as much in depth. A very complete one is now lying before me, and the materials of which it is composed are as follows:—The outward coat is formed of small pieces of a species of bluish gray lichen that vegetates on old trees and fences, thickly glued on with the saliva of the bird, giving firmness and consistency to the whole, as well as keeping out moisture. Within this are thick matted layers of the fine wings of certain flying seeds, closely laid together; and, lastly, the downy substance from the great mullein, and from the stalks of the common fern, lines the whole. The base of the nest is continued round the stem of the branch, to which it closely adheres; and, when viewed from below, appears a mere mossy knot or accidental protuberance. The eggs are two, pure white and of equal thickness at both ends. The nest and eggs in the plate were copied with great precision and by actual measurement, from one just taken in from the woods. On a person's approaching their nest, the little proprietors dart around with a humming sound, passing frequently within a few inches of one's head; and should the young be newly hatched, the female will resume her place on the nest even while you stand within a yard or two of the spot. The precise period of incubation I am unable to give; but the young are in the habit, a short time before they leave the nest, of thrusting their bills into the mouths of their parents, and sucking what they have brought them. I never could perceive that they carried them any animal food; though, from circumstances that will presently be mentioned, I think it highly probable they do. As I have found their nests with eggs so late as the twelfth of July, I do not doubt but that they frequently, and perhaps usually, raise two broods in the same season.

The Humming Bird is extremely fond of tubular flowers, and I have
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often stopped, with pleasure, to observe his manœuvres among the blossoms of the trumpet flower. When arrived before a thicket of these that are full blown, he poises, or suspends himself on wing, for the space of two or three seconds, so steadily, that his wings become invisible, or only like a mist; and you can plainly distinguish the pupil of his eye looking round with great quickness and circumspection; the glossy golden green of his back, and the fire of his throat, dazzling in the sun, form altogether a most interesting appearance. The position into which his body is usually thrown while in the act of thrusting his slender tubular tongue into the flower, to extract its sweets, is exhibited in the figure on the plate. When he alights, which is frequently, he always prefers the small dead twigs of a tree, or bush, where he dresses and arranges his plumage with great dexterity. His only note is a single chirp, not louder than that of a small cricket or grasshopper, generally uttered while passing from flower to flower, or when engaged in fight with his fellows; for when two males meet at the same bush, or flower, a battle instantly takes place; and the combatants ascend in the air, chirping, darting and circling round each other, till the eye is no longer able to follow them. The conqueror, however, generally returns to the place to reap the fruits of his victory. I have seen him attack, and for a few moments tease the King Bird; and have also seen him in his turn, assaulted by a humble-bee, which he soon put to flight. He is one of those few birds that are universally beloved; and amidst the sweet dewy serenity of a summer's morning, his appearance among the arbors of honeysuckles, and beds of flowers, is truly interesting.

When morning dawns, and the blest sun, again
 Lifts his red glories from the Eastern main,
 Then through our woodbines, wet with glittering dews,
 The flower-fed Humming-bird his round pursues;
 Sips with inserted tube, the honeyed blooms,
 And chirps his gratitude as round he roams;
 While richest roses, though in crimson drest,
 Shrink from the splendor of his gorgeous breast;
 What heav'nly tints in mingling radiance fly!
 Each rapid movement gives a different dye;
 Like scales of burnished gold they dazzling show,
 Now sink to shade—now like a furnace glow!

The singularity of this little bird has induced many persons to attempt to raise them from the nest, and accustom them to the cage. Mr. Coffey, of Fairfax county, Virginia, a gentleman who has paid great attention to the manners and peculiarities of our native birds, told me, that he raised and kept two, for some months, in a cage; supplying them with honey dissolved in water, on which they readily fed. As the sweetness

of the liquid frequently brought small flies and gnats about the cage, and cup, the birds amused themselves by snapping at them on wing, and swallowing them with eagerness, so that these insects formed no inconsiderable part of their food. Mr. Charles Wilson Peale, proprietor of the Museum, tells me, that he had two young Humming Birds which he raised from the nest. They used to fly about the rooms; and would frequently perch on Mrs. Peale's shoulder to be fed. When the sun shone strongly into the chamber, he has observed them darting after the motes that floated in the light, as Flycatchers would after flies. In the summer of 1803 a nest of young Humming Birds was brought me, that were nearly fit to fly. One of them actually flew out by the window the same evening, and falling against a wall, was killed. The other refused food, and the next morning I could but just perceive that it had life. A lady in the house undertook to be its nurse, placed it in her bosom, and as it began to revive, dissolved a little sugar in her mouth, into which she thrust its bill, and it sucked with great avidity. In this manner it was brought up until fit for the cage. I kept it upwards of three months, supplied it with loaf sugar dissolved in water which it preferred to honey and water, gave it fresh flowers every morning sprinkled with the liquid, and surrounded the space in which I kept it with gauze, that it might not injure itself. It appeared gay, active, and full of spirit, hovering from flower to flower as if in its native wilds, and always expressed by its motions and chirping, great pleasure at seeing fresh flowers introduced to its cage. Numbers of people visited it from motives of curiosity, and I took every precaution to preserve it, if possible, through the winter. Unfortunately, however, by some means it got at large, and, flying about the room, so injured itself that it soon after died.

This little bird is extremely susceptible of cold, and if long deprived of the animating influence of the sunbeams, droops and soon dies. A very beautiful male was brought me this season, which I put into a wire cage, and placed in a retired shaded part of the room. After fluttering about for some time, the weather being uncommonly cool, it clung by the wires, and hung in a seemingly torpid state for a whole forenoon. No motion whatever of the lungs could be perceived, on the closest inspection, though at other times this is remarkably observable; the eyes were shut; and when touched by the finger it gave no signs of life or motion. I carried it out to the open air, and placed it directly in the rays of the sun, in a sheltered situation. In a few seconds respiration became very apparent; the bird breathed faster and faster, opened its eyes, and began to look about, with as much seeming vivacity as ever. After it had completely recovered, I restored it to liberty; and it flew off to the withered top of a pear tree, where it sat for

some time dressing its disordered plumage, and then shot off like a meteor.

The flight of the Humming Bird from flower to flower, greatly resembles that of a bee, but is so much more rapid, that the latter appears a mere loiterer to him. He poises himself on wing, while he thrusts his long slender tubular tongue into the flowers in search of food. He sometimes enters a room by the window, examines the bouquets of flowers, and passes out by the opposite door or window. He has been known to take refuge in a hot-house during the cool nights of autumn; to go regularly out in the morning, and to return as regularly in the evening, for several days together.

The Humming Bird has, hitherto, been supposed to subsist altogether on the honey, or liquid sweets, which it extracts from flowers. One or two curious observers have indeed remarked, that they have found evident fragments of insects in the stomach of this species; but these have been generally believed to have been taken in by accident. The few opportunities which Europeans have to determine this point by observations made on the living bird, or by dissection of the newly-killed one, have rendered this mistaken opinion almost general in Europe. For myself I can speak decisively on this subject. I have seen the Humming Bird for half an hour at a time darting at those little groups of insects that dance in the air in a fine summer evening, retiring to an adjoining twig to rest, and renewing the attack with a dexterity that sets all our other Flycatchers at defiance. I have opened from time to time great numbers of these birds; have examined the contents of the stomach with suitable glasses, and in three cases out of four, have found these to consist of broken fragments of insects. In many subjects entire insects of the coleopterous class, but very small, were found unbroken. The observations of Mr. Coffey as detailed above, and the remarks of my worthy friend Mr. Peale, are corroborative of these facts. It is well known that the Humming Bird is particularly fond of tubular flowers where numerous small insects of this kind resort to feed on the farina, &c., and there is every reason for believing that he is as often in search of these insects as of honey; and that the former compose at least as great a portion of his usual sustenance as the latter. If this food be so necessary for the parents there is no doubt but the young also occasionally partake of it.

To enumerate all the flowers of which this little bird is fond, would be to repeat the names of half our American Flora. From the blossoms of the towering poplar, or tulip tree, through a thousand intermediate flowers to those of the humble larkspur, he ranges at will, and almost incessantly. Every period of the season produces a fresh multitude of new favorites. Towards the month of September there is a

yellow flower which grows in great luxuriance along the sides of creeks and rivers, and in low moist situations; it grows to the height of two or three feet, and the flower which is about the size of a thimble, hangs in the shape of a cap of liberty above a luxuriant growth of green leaves. It is the *Balsamina noli me tangere* of botanists, and is the greatest favorite with the Humming Bird of all our other flowers. In some places where these plants abound you may see at one time ten or twelve Humming Birds darting about, and fighting with and pursuing each other. About the twentieth of September they generally retire to the south. I have, indeed, sometimes seen a solitary individual on the twenty-eighth and thirtieth of that month, and sometimes even in October; but these cases are rare. About the beginning of November they pass the southern boundary of the United States into Florida.

The Humming Bird is three inches and a half in length, and four and a quarter in extent; the whole back, upper part of the neck, sides under the wings, tail coverts, and two middle feathers of the tail, are of a rich golden green; the tail is forked, and, as well as the wings, of a deep brownish purple; the bill and eyes are black; the legs and feet, both of which are extremely small, are also black; the bill is straight, very slender, a little inflated at the tip, and very incompetent to the exploit of penetrating the tough sinewy side of a crow, and precipitating it from the clouds to the earth, as Charlevoix would persuade his readers to believe.* The nostrils are two small oblong slits, situated at the base of the upper mandible, scarcely perceivable when the bird is dead, though very distinguishable and prominent when living; the sides of the belly and belly itself dusky white, mixed with green; but what constitutes the chief ornament of this little bird, is the splendor of the feathers of his throat, which when placed in a proper position, glow with all the brilliancy of the ruby. These feathers are of singular strength and texture, lying close together like scales, and vary when moved before the eye from a deep black to a fiery crimson and burning orange. The female is destitute of this ornament; but differs little in other appearance from the male; her tail is tipped with white, and the whole lower parts are of the same tint. The young birds of the first season, both male and female, have the tail tipped with white, and the whole lower parts nearly white; in the month of September the ornamental feathers on the throat of the young males begin to appear.

On dissection the heart was found to be remarkably large, nearly as big as the cranium; and the stomach, though distended with food, uncommonly small, not exceeding the globe of the eye, and scarcely more than one-sixth part as large as the heart; the fibres of the last

* Hist. de la Nov. France, III., p. 185.

were also exceedingly strong. The brain was in large quantity, and very thin; the tongue, from the tip to an extent equal with the length of the bill, was perforated, forming two closely attached parallel and cylindrical tubes; the other extremities of the tongue corresponded exactly to those of the Woodpecker, passing up the hind head, and reaching to the base of the upper mandible. These observations were verified in five different subjects, all of whose stomachs contained fragments of insects, and some of them whole ones.

END OF VOL. I.

AMERICAN ORNITHOLOGY;
OR, THE
NATURAL HISTORY
OF THE
BIRDS OF THE UNITED STATES.

ILLUSTRATED WITH PLATES
ENGRAVED FROM DRAWINGS FROM NATURE.

BY
ALEXANDER WILSON
AND
CHARLES LUCIAN BONAPARTE.

POPULAR EDITION.

VOL. II.



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AMERICAN ORNITHOLOGY.

ORDER III. PASSERES. PASSERINE.

GENUS XXXI. STURNUS. STARLING.

SPECIES. *S. PREDATORIUS*.

RED-WINGED STARLING.

[Plate XXX. Fig. 1, Male.—Fig. 2, Female.]

Oriolus phæniceus, LINN. *Syst.* 161.—*Red-winged Oriole*, *Arct. Zool.* 255, No. 140.—*Icterus pterophænicus*, BRISS. II., 97.—*Le Commandeur*, BUFF. III., 214, *Pl. Enl.* 402.—LATH. I., 428.—*Acolchichi*, FERNAND. *Nov. Hisp.* p. 14. *Red-winged Starling*, CATESB. p. 13.

THIS notorious and celebrated *corn-thief*, the long-reputed plunderer and pest of our honest and laborious farmers, now presents himself before us, with his copartner in iniquity,* to receive the character due for their very active and distinguished services. In investigating the nature of these, I shall endeavor to render strict historical justice to this noted pair; adhering to the honest injunctions of the poet,

“Nothing extenuate,
Nor set down aught in malice.”

Let the reader divest himself equally of prejudice, and we shall be at no loss to ascertain accurately their true character.

The Red-winged Starlings, though generally migratory in the states north of Maryland, are found during winter in immense flocks, sometimes associated with the Purple Grakles, and often by themselves, along the whole lower parts of Virginia, both Carolinas, Georgia, and Louisiana, particularly near the sea-coast, and in the vicinity of large rice and corn fields. In the months of January and February, while passing through the former of these countries, I was frequently entertained with

* Wilson here alludes to the Pileated Woodpecker, which in the original edition precedes the Red-winged Starling.

the aerial evolutions of those great bodies of Starlings. Sometimes they appeared driving about like an enormous black cloud carried before the wind, varying its shape every moment. Sometimes suddenly rising from the fields around me with a noise like thunder; while the glittering of innumerable wings of the brightest vermilion amid the black cloud they formed, produced on these occasions a very striking and splendid effect. Then descending like a torrent, and covering the branches of some detached grove, or clump of trees, the whole congregated multitude commenced one general concert or chorus, that I have plainly distinguished at the distance of more than two miles, and when listened to at the intermediate space of about a quarter of a mile, with a slight breeze of wind to swell and soften the flow of its cadences, was to me grand and even sublime. The whole season of winter, that with most birds is past in struggling to sustain life, in silent melancholy, is with the Red-wings one continued carnival. The profuse gleanings of the old rice; corn, and buckwheat fields, supply them with abundant food, at once ready and nutritious; and the intermediate time is spent either in aerial manœuvres, or in grand vocal performances, as if solicitous to supply the absence of all the tuneful summer tribes, and to cheer the dejected face of nature with their whole combined powers of harmony.

About the twentieth of March, or earlier if the season be open, they begin to enter Pennsylvania in numerous though small parties. These migrating flocks are usually observed from daybreak to eight or nine in the morning, passing to the north, chattering to each other as they fly along; and, in spite of all our antipathy, their well known notes and appearance, after the long and dreary solitude of winter, inspire cheerful and pleasing ideas of returning spring warmth and verdure. Selecting their old haunts, every meadow is soon enlivened by their presence. They continue in small parties to frequent the low borders of creeks, swamps and ponds, till about the middle of April, when they separate in pairs to breed; and about the last week in April, or first in May, begin to construct their nest. The place chosen for this is generally within the precincts of a marsh or swamp, meadow or other like watery situation. The spot usually a thicket of alder bushes, at the height of six or seven feet from the ground; sometimes in a detached bush in a meadow of high grass; often in a tussock of rushes or coarse rank grass; and not unfrequently in the ground. In all of which situations I have repeatedly found them. When in a bush they are generally composed outwardly of wet rushes picked from the swamp, and long tough grass in large quantity, and well lined with very fine bent. The rushes, forming the exterior, are generally extended to several of the adjoining twigs, round which they are repeatedly and securely twisted; a precaution absolutely necessary for its preservation, on account of the flexible nature of the bushes in which it is placed. The same caution

is observed when a tussock is chosen, by fastening the tops together, and intertwining the materials of which the nest is formed with the stalks of rushes around. When placed in the ground, less care and fewer materials being necessary, the nest is much simpler and slighter than before. The female lays five eggs, of a very pale light blue, marked with faint tinges of light purple and long straggling lines and dashes of black. It is not uncommon to find several nests in the same thicket, within a few feet of each other.

During the time the female is sitting, and still more particularly after the young are hatched, the male, like most other birds that build in low situations, exhibits the most violent symptoms of apprehension and alarm on the approach of any person to its near neighborhood. Like the Lapwing of Europe he flies to meet the intruder, hovers at a short height over head, uttering loud notes of distress; and while in this situation displays to great advantage the rich glowing scarlet of his wings, heightened by the jetty black of his general plumage. As the danger increases, his cries become more shrill and incessant, and his motions rapid and restless; the whole meadow is alarmed, and a collected crowd of his fellows hover around, and mingle their notes of alarm and agitation with his. When the young are taken away, or destroyed, he continues for several days near the place, restless and dejected, and generally recommences building soon after, in the same meadow. Towards the beginning or middle of August, the young birds begin to fly in flocks, and at that age nearly resemble the female, with the exception of some reddish or orange, that marks the shoulders of the males, and which increases in space and brilliancy as winter approaches. It has been frequently remarked that at this time the young birds chiefly associate by themselves, there being sometimes not more than two or three old males observed in a flock of many thousands. These, from the superior blackness and rich red of their plumage, are very conspicuous.

Before the beginning of September these flocks have become numerous and formidable, and the young ears of maize, or Indian corn, being then in their soft, succulent, milky state, present a temptation that cannot be resisted. Reinforced by numerous and daily flocks from all parts of the interior, they pour down on the low countries in prodigious multitudes. Here they are seen, like vast clouds, wheeling and driving over the meadows and devoted corn fields, darkening the air with their numbers. Then commences the work of destruction on the corn, the husks of which, though composed of numerous envelopments of closely wrapped leaves, are soon completely or partially torn off; while from all quarters myriads continue to pour down like a tempest, blackening half an acre at a time; and, if not disturbed, repeat their depredations till little remains but the cob and the shrivelled skins of the grain; what

little is left of the tender ear being exposed to the rains and weather is generally much injured. All the attacks and havoc made at this time among them with the gun, and by the Hawks, several species of which are their constant attendants, has little effect on the remainder. When the Hawks make a sweep among them they suddenly open on all sides, but rarely in time to disappoint them of their victims; and though repeatedly fired at, with mortal effect, they only remove from one field to an adjoining one, or to another quarter of the same enclosure. From dawn to nearly sun-set, this open and daring devastation is carried on, under the eye of the proprietor; and a farmer who has any considerable extent of corn would require half a dozen men at least with guns to guard it; and even then, all their vigilance and activity would not prevent a good tithe of it from becoming the prey of the Blackbirds. The Indians, who usually plant their corn in one general field, keep the whole young boys of the village, all day patrolling round and among it; and each being furnished with bow and arrows, with which they are very expert, they generally contrive to destroy great numbers of them.

It must, however, be observed, that this scene of pillage is principally carried on in the low countries, not far from the sea-coast, or near the extensive flats that border our large rivers; and is also chiefly confined to the months of August and September. After this period the corn having acquired its hard shelly coat, and the seeds of the reeds or wild oats, with a profusion of other plants that abound along the river shores, being now ripe, and in great abundance, present a new and more extensive field for these marauding multitudes. The reeds also supply them with convenient roosting places, being often in almost unapproachable morasses; and thither they repair every evening from all quarters of the country. In some places, however, when the reeds become dry, advantage is taken of this circumstance to destroy these birds by a party secretly approaching the place under cover of a dark night, setting fire to the reeds in several places at once, which being soon enveloped in one general flame the uproar among the Blackbirds becomes universal, and by the light of the conflagration they are shot down in vast numbers, while hovering and screaming over the place. Sometimes straw is used for the same purpose, being previously strewed near the reeds and alder bushes where they are known to roost, which being instantly set on fire, the consternation and havoc is prodigious; and the party return by day to pick up the slaughtered game. About the first of November they begin to move off towards the south; though near the sea-coast, in the states of New Jersey and Delaware, they continue long after that period.

Such are the general manners and character of the *Red-winged Starling*; but there remain some facts to be mentioned, no less authentic,

and well deserving the consideration of its enemies, more especially of those whose detestation of this species would stop at nothing short of total extirpation.

It has been already stated that they arrive in Pennsylvania late in March. Their general food at this season, as well as during the early part of summer (for the Crows and Purple Grakles are the principal pests in planting time), consists of grub-worms, caterpillars, and various other larvæ, the silent but deadly enemies of all vegetation, and whose secret and insidious attacks are more to be dreaded by the husbandman than the combined forces of the whole feathered tribes together. For these vermin the Starlings search with great diligence; in the ground, at the roots of plants, in orchards, and meadows, as well as among buds, leaves and blossoms; and from their known voracity the multitudes of these insects which they destroy must be immense. Let me illustrate this by a short computation. If we suppose each bird, on an average, to devour fifty of these larvæ in a day (a very moderate allowance), a single pair in four months, the usual time such food is sought after, will consume upwards of twelve thousand. It is believed, that not less than a million pair of these birds are distributed over the whole extent of the United States in summer; whose food being nearly the same, would swell the amount of vermin destroyed to twelve thousand millions. But the number of young birds may be fairly estimated at double that of their parents, and as these are constantly fed on larvæ for at least three weeks, making only the same allowance for them as for the old ones, their share would amount to four thousand two hundred millions; making a grand total of sixteen thousand two hundred millions of noxious insects destroyed in the space of four months by this single species! The combined ravages of such a hideous host of vermin would be sufficient to spread famine and desolation over a wide extent of the richest and best cultivated country on earth. All this, it may be said, is mere supposition. It is, however, supposition founded on known and acknowledged facts. I have never dissected any of these birds in spring without receiving the most striking and satisfactory proofs of those facts; and though in a matter of this kind it is impossible to ascertain precisely the amount of the benefits derived by agriculture from this and many other species of our birds; yet in the present case I cannot resist the belief, that the services of this species, in spring, are far more important and beneficial than the value of all that portion of corn which a careful and active farmer permits himself to lose by it.

The great range of country frequented by this bird extends from Mexico on the south, to Labrador. Our late enterprising travellers across the continent to the Pacific Ocean observed it numerous in several of the valleys at a great distance up the Missouri. When taken alive, or reared from the nest, it soon becomes familiar, sings frequently,

bristling out its feathers something in the manner of the Cow Bunting. These notes, though not remarkably various, are very peculiar. The most common one resembles the syllables *conk-quer ree*; others the shrill sounds produced by filing a saw; some are more guttural; and others remarkably clear. The usual note of both male and female is a single *chuck*. Instances have been produced where they have been taught to articulate several words distinctly; and contrary to that of many birds the male loses little of the brilliancy of his plumage by confinement.

A very remarkable trait of this bird is the great difference of size between the male and female; the former being nearly two inches longer than the latter, and of proportionate magnitude. They are known by various names in the different states of the Union; such as the *Swamp Blackbird*, *Marsh Blackbird*, *Red-winged Blackbird*, *Corn* or *Maize-thief*, *Starling*, &c. Many of them have been carried from this to different parts of Europe, and Edwards relates that one of them, which had no doubt escaped from a cage, was shot in the neighborhood of London; and on being opened, its stomach was found to be filled with grub worms, caterpillars and beetles; which Buffon seems to wonder at, as "in their own country," he observes, "they feed exclusively on grain and maize."

Hitherto this species has been generally classed by naturalists with the Orioles. By a careful comparison, however, of its bill with those of that tribe, the similarity is by no means sufficient to justify this arrangement; and its manners are altogether different. I can find no genus to which it makes so near an approach, both in the structure of the bill and in food, flight and manners as those of the *Stare*, with which, following my judicious friend Mr. Bartram, I have accordingly placed it. To the European the perusal of the foregoing pages will be sufficient to satisfy him of their similarity of manners. For the satisfaction of those who are unacquainted with the common Starling of Europe, I shall select a few sketches of its character, from the latest and most accurate publication I have seen from that quarter.* Speaking of the Stare or Starling, this writer observes, "In the winter season these birds fly in vast flocks, and may be known at a great distance by their whirling mode of flight, which Buffon compares to a sort of vortex, in which the collective body performs a uniform circular revolution, and at the same time continues to make a progressive advance. The evening is the time when the Stares assemble in the greatest numbers, and betake themselves to the fens and marshes, where they roost among the reeds: they chatter much in the evening and morning, both when they assemble and disperse. So attached are they to society that they not

* Bewick's British Birds, part i., p. 119, Newcastle, 1809.

only join those of their own species, but also birds of a different kind; and are frequently seen in company with Red-wings (a species of Thrush), Fieldfares, and even with Crows, Jackdaws and Pigeons. Their principal food consists of worms, snails and caterpillars; they likewise eat various kinds of grain, seeds and berries." He adds, that "in a confined state they are very docile, and may easily be taught to repeat short phrases, or whistle tunes with great exactness."

The *Red-winged Starling*, fig. 1, is nine inches long, and fourteen inches in extent; the general color is a glossy black, with the exception of the whole lesser wing coverts, the first or lower row of which is of a reddish cream color, the rest a rich and splendid scarlet; legs and bill glossy brownish black; irides hazel; bill cylindrical above, compressed at the sides, straight, running considerably up the forehead, where it is prominent, rounding and flattish towards the tip, though sharp pointed; tongue nearly as long as the bill, tapering and lacerated at the end; tail rounded, the two middle feathers also somewhat shorter than those immediately adjoining.

The female, fig. 2, is seven inches and a quarter in length, and twelve inches in extent; chin a pale reddish cream; from the nostril over the eye, and from the lower mandible run two stripes of the same, speckled with black; from the posterior angle of the eye backwards, a streak of brownish black covers the auriculars; throat, and whole lower parts, thickly streaked with black and white, the latter inclining to cream on the breast; whole plumage above black, each feather bordered with pale brown, white or bay, giving the bird a very mottled appearance; lesser coverts the same; bill and legs as in the male.

The young birds at first greatly resemble the female; but have the plumage more broadly skirted with brown. The red early shows itself on the lesser wing-coverts of the males, at first pale, inclining to orange, and partially disposed. The brown continues to skirt the black plumage for a year or two, so that it is rare to find an old male altogether destitute of some remains of it; but the red is generally complete in breadth and brilliancy by the succeeding spring. The females are entirely destitute of that ornament.

The flesh of these birds is but little esteemed, being in general black, dry and tough. Strings of them are, however, frequently seen exposed for sale in our markets.

GENUS XXXII. TURDUS. THRUSH.

SPECIES I. *T. POLYGLOTTUS*.

MOCKING-BIRD.

[Plate X. Fig. 1.]

Mimic Thrush, LATH. *Syn.* III., p. 40, No. 42.—*Arct. Zool.* II., No. 194.—*Turdus polyglottus*, LINN. *Syst.* I., p. 293, No. 10.—*Le grand Moqueur*, BRISS. *Orn.* II., p. 266, 29.—*BUFF. Ois.* III., p. 325. *Pl. Enl.* 558, fig. 1.—*Singing-bird, Mocking-bird, or Nightingale*, RAIL. *Syn.* p. 64, No. 5, p. 185, 31.—SLOAN, *Jam.* II., 306, No. 34.—*The Mock-bird*, CATESE. *Car.* I., Pl. 27.

THIS celebrated and very extraordinary bird, in extent and variety of vocal powers, stands unrivalled by the whole feathered songsters of this or perhaps any other country; and shall receive from us, in this place, all that attention and respect which superior merit is justly entitled to.

Among the many novelties which the discovery of this part of the western continent first brought into notice, we may reckon that of the Mocking-bird; which is not only peculiar to the new world, but inhabits a very considerable extent of both North and South America; having been traced from the states of New England to Brazil; and also among many of the adjacent islands. They are, however, much more numerous in those states south, than in those north, of the river Delaware; being generally migratory in the latter, and resident (at least many of them) in the former. A warm climate, and low country, not far from the sea, seem most congenial to their nature; accordingly we find the species less numerous to the west than east of the great range of the Alleghany, in the same parallels of latitude. In the severe winter of 1808-9, I found these birds, occasionally, from Fredericksburg in Virginia, to the southern parts of Georgia; becoming still more numerous the farther I advanced to the south. The berries of the red cedar, myrtle, holly, Cassine shrub, many species of smilax, together with gum berries, gall berries, and a profusion of others with which the luxuriant swampy thickets of those regions abound, furnish them with a perpetual feast. Winged insects, also, of which they are very fond, and remarkably expert at catching, abound there even in winter, and are an additional inducement to residency. Though rather a shy bird in the Northern States, here he appeared almost half domesticated, feeding on the cedars and among the thickets of smilax, that lined the roads, while I passed

within a few feet; playing around the planter's door, and hopping along the shingles. During the month of February I sometimes heard a solitary one singing; but on the second of March, in the neighborhood of Savannah, numbers of them were heard on every hand, vying in song with each other, and, with the Brown Thrush, making the whole woods vocal with their melody. Spring was at that time considerably advanced; and the thermometer ranged between 70 and 78 degrees. On arriving at New York, on the twenty-second of the same month, I found many parts of the country still covered with snow, and the streets piled with ice to the height of two feet; while neither the Brown Thrush nor Mocking-bird was observed, even in the lower parts of Pennsylvania, until the twentieth of April.

The precise time at which the Mocking-bird begins to build his nest varies according to the latitude in which he resides. In the lower parts of Georgia he commences building early in April; but in Pennsylvania rarely before the tenth of May; and in New York, and the states of New England, still later. There are particular situations to which he gives the preference. A solitary thorn bush, an almost impenetrable thicket; an orange-tree, cedar, or holly-bush, are favorite spots, and frequently selected. It is no great objection with him that these happen, sometimes, to be near the farm or mansion house: always ready to defend, but never over anxious to conceal, his nest, he very often builds within a small distance of the house; and not unfrequently in a pear or apple tree; rarely at a greater height than six or seven feet from the ground. The nest varies a little with different individuals, according to the conveniency of collecting suitable materials. A very complete one is now lying before me, and is composed of the following substances. First a quantity of dry twigs and sticks, then withered tops of weeds of the preceding year, intermixed with fine straws, hay, pieces of wool and tow; and lastly, a thick layer of fine fibrous roots, of a light brown color, lines the whole. The eggs, one of which is represented at fig. 2, are four, sometimes five, of a cinereous blue, marked with large blotches of brown. The female sits fourteen days, and generally produces two broods in the season, unless robbed of her eggs, in which case she will even build and lay the third time. She is however, extremely jealous of her nest, and very apt to forsake it if much disturbed. It is even asserted by some of our bird dealers, that the old ones will actually destroy the eggs, and poison the young, if either the one or the other have been handled. But I cannot give credit to this unnatural report. I know from my own experience, at least, that it is not always their practice; neither have I ever witnessed a case of the kind above mentioned. During the period of incubation neither cat, dog, animal or man, can approach the nest without being attacked. The cats, in particular, are persecuted whenever they make

their appearance, till obliged to retreat. But his whole vengeance is most particularly directed against that mortal enemy of his eggs and young, the black snake. Whenever the insidious approaches of this reptile are discovered, the male darts upon it with the rapidity of an arrow, dexterously eluding its bite, and striking it violently and incessantly about the head, where it is very vulnerable. The snake soon becomes sensible of its danger, and seeks to escape; but the intrepid defender of his young redoubles his exertions, and, unless his antagonist be of great magnitude, often succeeds in destroying him. All its pretended powers of fascination avail it nothing against the vengeance of this noble bird. As the snake's strength begins to flag the Mocking-bird seizes it and lifts it up, partly from the ground, beating it with his wings, and when the business is completed, he returns to the repository of his young, mounts the summit of the bush, and pours out a torrent of song in token of victory.

As it is of some consequence to be able to distinguish a young male bird from a female, the following marks may be attended to; by which some pretend to be able to distinguish them in less than a week after they are hatched. These are, the breadth and purity of the white on the wings, for that on the tail is not so much to be depended on. This white, in a full grown male bird, spreads over the whole nine primaries, down to, and considerably below, their coverts, which are also white, sometimes slightly tipped with brown. The white of the primaries also extends equally far on both vanes of the feathers. In the female the white is less pure, spreads over only seven or eight of the primaries, does not extend so far, and extends considerably farther down on the broad than on the narrow side of the feathers. The black is also more of a brownish cast.

The young birds, if intended for the cage, ought not to be left till they are nearly ready to fly; but should be taken rather young than otherwise; and may be fed, every half hour, with milk thickened with Indian meal; mixing occasionally with it a little fresh meat, cut or minced very fine. After they begin to eat of their own accord, they ought still to be fed by hand, though at longer intervals, and a few cherries, strawberries, &c., now and then thrown in to them. The same sort of food, adding grasshoppers and fruit, particularly the various kinds of berries in which they delight; and plenty of clear fine gravel, is found very proper for them after they are grown up. Should the bird at any time appear sick or dejected, a few spiders thrown in to him will generally remove these symptoms of disease.

If the young bird is designed to be taught by an old one, the best singer should be selected for this office, and no other allowed to be beside him. Or if by the bird organ, or mouth-whistling, it should be begun early, and continued, pretty constantly, *by the same person*, until the

scholar, who is seldom inattentive, has completely acquired his lesson. The best singing birds, however, in my own opinion, are those that have been reared in the country, and educated under the tuition of the feathered choristers of the surrounding fields, groves, woods, and meadows.

The plumage of the Mocking-bird, though none of the homeliest, has nothing gaudy or brilliant in it, and, had he nothing else to recommend him, would scarcely entitle him to notice, but his figure is well proportioned, and even handsome. The ease, elegance and rapidity of his movements, the animation of his eye, and the intelligence he displays in listening and laying up lessons from almost every species of the feathered creation within his hearing, are really surprising, and mark the peculiarity of his genius. To these qualities we may add that of a voice full, strong, and musical, and capable of almost every modulation, from the clear mellow tones of the Wood Thrush, to the savage scream of the Bald Eagle. In measure and accent he faithfully follows his originals. In force and sweetness of expression he greatly improves upon them. In his native groves, mounted on the top of a tall bush or half-grown tree, in the dawn of dewy morning, while the woods are already vocal with a multitude of warblers, his admirable song rises pre-eminent over every competitor. The ear can listen to his music alone, to which that of all the others seems a mere accompaniment. Neither is this strain altogether imitative. His own native notes, which are easily distinguishable by such as are well acquainted with those of our various song birds; are bold and full, and varied seemingly beyond all limits. They consist of short expressions of two, three, or at the most five or six syllables; generally interspersed with imitations, and all of them uttered with great emphasis and rapidity; and continued, with undiminished ardor, for half an hour, or an hour at a time. His expanded wings and tail, glistening with white, and the buoyant gayety of his action, arresting the eye, as his song most irresistibly does the ear. He sweeps round with enthusiastic ecstasy—he mounts and descends as his song swells or dies away; and, as my friend Mr. Bartram has beautifully expressed it, “He bounds aloft with the celerity of an arrow, as if to recover or recall his very soul, expired in the last elevated strain.”* While thus exerting himself, a bystander destitute of sight, would suppose that the whole feathered tribes had assembled together, on a trial of skill; each striving to produce his utmost effect; so perfect are his imitations. He many times deceives the sportsman, and sends him in search of birds that perhaps are not within miles of him; but whose notes he exactly imitates: even birds themselves are frequently imposed on by this admirable mimic, and are decoyed by the fancied calls of their mates; or

* Travels, p. 32. Introd.

dive, with precipitation, into the depth of thickets, at the scream of what they suppose to be the Sparrow Hawk.

The Mocking-bird loses little of the power and energy of his song by confinement. In his domesticated state, when he commences his career of song, it is impossible to stand by uninterested. He whistles for the dog; Cæsar starts up, wags his tail, and runs to meet his master. He squeaks out like a hurt chicken, and the hen hurries about with hanging wings, and bristled feathers, clucking to protect its injured brood. The barking of the dog, the mewing of the cat, the creaking of a passing wheelbarrow, follow, with great truth and rapidity. He repeats the tune taught him by his master, though of considerable length, fully and faithfully. He runs over the quiverings of the Canary, and the clear whistlings of the Virginia Nightingale, or Red-bird, with such superior execution and effect, that the mortified songsters feel their own inferiority, and become altogether silent; while he seems to triumph in their defeat by redoubling his exertions.

This excessive fondness for variety, however, in the opinion of some, injures his song. His elevated imitations of the Brown Thrush are frequently interrupted by the crowing of cocks; and the warblings of the Blue-bird, which he exquisitely manages, are mingled with the screaming of Swallows, or the cackling of Hens; amidst the simple melody of the Robin we are suddenly surprised by the shrill reiterations of the Whippoorwill; while the notes of the Kildeer, Blue Jay, Martin, Baltimore, and twenty others, succeed, with such imposing reality, that we look round for the originals, and discover, with astonishment, that the sole performer in this singular *concert* is the admirable bird now before us. During this exhibition of his powers he spreads his wings, expands his tail, and throws himself around the cage in all the ecstacy of enthusiasm, seeming not only to sing, but to dance, keeping time to the measure of his own music. Both in his native and domesticated state, during the solemn stillness of night, as soon as the moon rises in silent majesty, he begins his delightful solo; and serenades us the live-long night with a full display of his vocal powers, making the whole neighborhood ring with his inimitable medley.*

* The hunters in the Southern States, when setting out upon an excursion by night, as soon as they hear the Mocking-bird begin to sing know that the moon is rising.

A certain anonymous author, speaking of the Mocking-birds in the island of Jamaica, and their practice of singing by moonlight, thus gravely philosophizes, and attempts to account for the habit. "It is not certain," says he, "whether they are kept so wakeful by the clearness of the light, or by any extraordinary attention and vigilance, at such times, for the protection of their nursery from the piratical assaults of the Owl and the Night Hawk. It is possible that fear may operate upon them, much in the same manner as it has been observed to affect some cowardly persons, who whistle stoutly in a lonesome place, while their mind is agitated with the terror of thieves or hobgoblins." *Hist. of Jam.* v. III., p. 894, quarto.

Were it not to seem invidious in the eyes of foreigners, I might in this place make a comparative statement between the powers of the Mocking-bird, and the only bird I believe in the world worthy of being compared with him, the European Nightingale. This, however, I am unable to do from my own observation, having never myself heard the song of the latter; and even if I had, perhaps something might be laid to the score of *partiality*, which, as a faithful biographer, I am anxious to avoid. I shall, therefore, present the reader with the opinion of a distinguished English naturalist, and curious observer, on this subject, the Hon. Daines Barrington, who at the time he made the communication was vice president of the Royal Society, to which they were addressed.*

"It may not be improper, here," says this gentleman, "to consider whether the Nightingale may not have a very formidable competitor in the American Mocking-bird; though almost all travellers agree, that the concert in the European woods is superior to that of the other parts of the globe. I have happened, however, to hear the American Mocking-bird, in great perfection, at Messrs. Vogels and Scotts; in Love-lane, Eastcheap. This bird is believed to be still living, and hath been in England these six years. During the space of a minute he imitated the Wood-lark, Chaffinch, Blackbird, Thrush, and Sparrow; I was told also that he would bark like a dog; so that the bird seems to have no choice in his imitations, though his pipe comes nearest to our Nightingale of any bird I have yet met with. With regard to the original notes, however, of this bird, we are still at a loss, as this can only be known by those who are accurately acquainted with the song of the other American birds. Kalm indeed informs us, that the natural song is excellent;† but this traveller seems not to have been long enough in America to have distinguished what were the genuine notes: with us mimics do not often succeed but in imitations. I have little doubt, however, but that this bird would be fully equal to the song of the Nightingale in its whole compass; but then from the attention which the *Mocker* pays to any other sort of disagreeable noise, these capital notes would be always debased by a bad mixture."

On this extract I shall make a few remarks. If, as is here conceded, the Mocking-bird be fully equal to the song of the Nightingale; and, as I can with confidence add, not only to that but to the song of almost every other bird; besides being capable of exactly imitating various other sounds and voices of animals, his vocal powers are unquestionably superior to those of the Nightingale, which possesses its own native

* Phil. Trans. vol. LXII., part II., p. 284.

† Travels, vol. I., p. 219.

notes alone. Further; if we consider, as is asserted by Mr. Barrington, that "one reason of the Nightingale's being more attended to than others is, that it sings in the night;" and if we believe with Shakspeare, that

"The Nightingale, if she should sing by day
When every goose is cackling, would be thought
No better a musician than a Wren,"

what must we think of that bird, who in the glare of day, when a multitude of songsters are straining their throats in melody, overpowers all competition; and by the superiority of his voice, expression and action, not only attracts every ear, but frequently strikes dumb his mortified rivals;—when the silence of night as well as the bustle of day, bear witness to his melody; and when even in captivity, in a foreign country, he is declared by the best judges in that country, to be fully equal to the song of their sweetest bird *in its whole compass*? The supposed degradation of his song by the introduction of extraneous sounds, and unexpected imitations, is, in fact, one of the chief excellencies of this bird; as these changes give a perpetual novelty to his strain, keep attention constantly awake, and impress every hearer with a deeper interest in what is to follow. In short, if we believe in the truth of that mathematical axiom, that the whole is greater than a part, all that is excellent or delightful, amusing or striking, in the music of birds, must belong to *that* admirable songster, whose vocal powers are equal to the whole compass of their whole strains.

The native notes of the Mocking-bird have considerable resemblance to those of the Brown Thrush, but may easily be distinguished by their greater rapidity, sweetness, energy of expression and variety. Both, however, have in many parts of the United States, particularly in those to the south, obtained the name of *Mocking-bird*. The first, or Brown Thrush, from its inferiority of song being called the French, and the other the English Mocking-bird. A mode of expression probably originating in the prejudices of our forefathers; with whom everything *French* was inferior to everything *English*.*

The Mocking-bird is frequently taken in trap-cages, and by proper management may be made sufficiently tame to sing. The upper parts of the cage (which ought to be of wood) should be kept covered, until the bird becomes a little more reconciled to confinement. If placed in a wire cage, uncovered, he will soon destroy himself in attempting to

* The observations of Mr. Barrington, in the paper above referred to, make this supposition still more probable. "Some Nightingales," says he, "are so vastly inferior, that the bird-catchers will not keep them, branding them with the name of Frenchmen." P. 283.

get out. These birds, however, by proper treatment may be brought to sing perhaps superior to those raised by hand, and cost less trouble. The opinion which the naturalists of Europe entertain of the great difficulty of raising the Mocking-bird, and, that not one in ten survives, is very incorrect. A person called on me a few days ago, with twenty-nine of these birds, old and young, which he had carried about the fields with him for several days, for the convenience of feeding them while engaged in trapping others. He had carried them thirty miles, and intended carrying them ninety-six miles farther, viz., to New York; and told me, that he did not expect to lose one out of ten of them. Cleanliness, and regularity in feeding, are the two principal things to be attended to, and these rarely fail to succeed.

The eagerness with which the nest of the Mocking-bird is sought after in the neighborhood of Philadelphia, has rendered this bird extremely scarce for an extent of several miles around the city. In the country round Wilmington and Newcastle, they are very numerous, from whence they are frequently brought here for sale. The usual price of a singing bird is from seven to fifteen, and even twenty dollars. I have known fifty dollars paid for a remarkably fine singer; and one instance where one hundred dollars were refused for a still more extraordinary one.

Attempts have been made to induce these charming birds to pair, and rear their young in a state of confinement, and the result has been such as to prove it, by proper management, perfectly practicable. In the spring of 1808, a Mr. Klein, living in North Seventh street, Philadelphia, partitioned off about twelve feet square in the third story of his house. This was lighted by a pretty large wire-grated window. In the centre of this small room he planted a cedar bush, five or six feet high, in a box of earth; and scattered about a sufficient quantity of materials suitable for building. Into this place a male and female Mocking-bird were put, and soon began to build. The female laid five eggs, all of which she hatched, and fed the young with great affection until they were nearly able to fly. Business calling the proprietor from home, for two weeks, he left the birds to the care of his domestics; and on his return found, to his great regret, that they had been neglected in food. The young ones were all dead, and the parents themselves nearly famished. The same pair have again commenced building this season, in the same place, and have at this time, July 4, three young likely to do well. The place might be fitted up with various kinds of shrubbery, so as to resemble their native thickets; and ought to be as remote from noise and interruption of company as possible, and strangers rarely allowed to disturb or even approach them.

The Mocking-bird is nine and a half inches long, and thirteen in breadth. Some individuals are, however, larger, and some smaller,

those of the first hatch being uniformly the biggest and stoutest.* The upper parts of the head, neck and back, are a dark, brownish ash; and when new moulted, a fine light gray; the wings and tail are nearly black, the first and second rows of coverts tipped with white; the primary coverts, in some males, are wholly white, in others tinged with brown. The three first primaries are white from their roots as far as their coverts; the white on the next six extends from an inch to one and three-fourths farther down, descending equally on both sides of the feather; the tail is cuneiform, the two exterior feathers wholly white, the rest, except the middle ones, tipped with white; the chin is white; sides of the neck, breast, belly and vent a brownish white, much purer in wild birds than in those that have been domesticated; iris of the eye yellowish cream colored, inclining to golden; bill black, the base of the lower mandible whitish; legs and feet black, and strong. The female very much resembles the male; what difference there is has been already pointed out in a preceding part of this account. The breast of the young bird is spotted like that of the Thrush.

Mr. William Bartram observes of the Mocking-bird, that "formerly, say thirty or forty years ago, they were numerous, and often stayed all winter with us, or the year through, feeding on the berries of ivy, smilax, grapes, persimmons, and other berries. The ivy (*Hedera helix*) they were particularly fond of, though a native of Europe. We have an ancient plant adhering to the wall of the house, covering many yards of surface; this vine is very fruitful, and here many would feed and lodge during the winter, and in very severe cold weather sit on the top of the chimney to warm themselves." He also adds, "I have observed that the Mocking-bird ejects from his stomach through his mouth the hard kernels of berries, such as smilax, grapes, &c., retaining the pulpy part."†

* Many people are of opinion that there are two sorts, the large and the small Mocking-bird; but after examining great numbers of these birds in various regions of the United States, I am satisfied that this variation of size is merely accidental, or owing to the circumstance above mentioned.

† Letter from Mr. Bartram to the author.

SPECIES II. *TURDUS RUFUS*.

FERRUGINOUS THRUSH.

[Plate XIV. Fig. 1.]

Fox-colored Thrush, CATESBY, I., 28.—*Turdus rufus*, LINN. *Syst.* 293.—LATH. III., 39.—*La Grive de la Caroline*, BRISS. II., 223.—*Le Moqueur François*, DE BUFF. III., 323, *Pl. Enl.* 645.—*Arct. Zool.* p. 335, No. 195.

THIS is the Brown Thrush, or Thrasher of the Middle and Eastern States; and the French Mocking-bird of Maryland, Virginia, and the Carolinas. It is the largest of all our Thrushes, and is a well known and very distinguished songster. About the middle or twentieth of April, or generally about the time the cherry-trees begin to blossom, he arrives in Pennsylvania; and from the tops of our hedge rows, sassafras, apple or cherry-trees, he salutes the opening morning with his charming song, which is loud, emphatical, and full of variety. At that serene hour you may plainly distinguish his voice full half a mile off. These notes are not imitative, as his name would import, and as some people believe, but seem solely his own; and have considerable resemblance to the notes of the Song Thrush (*Turdus musicus*) of Britain. Early in May he builds his nest, choosing a thorn bush, low cedar, thicket of briars, dogwood sapling, or cluster of vines for its situation, generally within a few feet of the ground. Outwardly it is constructed of small sticks; then layers of dry leaves; and lastly lined with fine fibrous roots; but without any plaster. The eggs are five, thickly sprinkled with ferruginous grains on a very pale bluish ground. They generally have two broods in a season. Like all birds that build near the ground, he shows great anxiety for the safety of his nest and young, and often attacks the black-snake in their defence, generally too with success; his strength being greater and his bill stronger and more powerful than any other of his tribe within the United States. His food consists of worms, which he scratches from the ground, caterpillars, and many kinds of berries. Beetles and the whole race of coleopterous insects, wherever he can meet with them, are sure to suffer. He is accused, by some people, of scratching up the hills of Indian corn, in planting time; this may be partly true; but for every grain of maize he pilfers I am persuaded he destroys five hundred insects; particularly a large dirty-colored grub, with a black head, which is more pernicious to the corn and other grain and vegetables, than nine-tenths of the whole feathered race. He is an

active, vigorous bird, flies generally low, from one thicket to another, with his long broad tail spread like a fan; is often seen about briar and bramble bushes, along fences; and has a single note or chuck, when you approach his nest. In Pennsylvania they are numerous, but never fly in flocks. About the middle of September, or as soon as they have well recovered from moulting, in which they suffer severely, they disappear for the season. In passing through the southern parts of Virginia, and south as far as Georgia, in the depth of winter, I found them lingering in sheltered situations, particularly on the border of swamps and rivers. On the first of March they were in full song round the commons at Savannah, as if straining to outstrip the Mocking-bird, that prince of feathered musicians.

The Thrasher is a welcome visitant in spring to every lover of rural scenery and rural song. In the months of April and May, when our woods, hedge-rows, orchard and cherry trees are one profusion of blossoms, when every object around conveys the sweet sensations of joy, and heaven's abundance is as it were showering around us, the grateful heart beats in unison with the varying elevated strains of this excellent bird; we listen to its notes with a kind of devotional ecstacy, as a morning hymn to the great and most adorable Creator of all. The human being who, amidst such scenes, and in such seasons of rural serenity and delight, can pass them with cold indifference, and even contempt, I sincerely pity; for abject must that heart be and callous those feelings, and depraved that taste, which neither the charms of nature, nor the melody of innocence, nor the voice of gratitude or devotion can reach.

This bird inhabits North America from Canada to the point of Florida. They are easily reared, and become very familiar when kept in cages; and though this is rarely done, yet I have known a few instances where they sung in confinement with as much energy as in their native woods. They ought frequently to have earth and gravel thrown in to them, and have plenty of water to bathe in.

The Ferruginous Thrush is eleven inches and a half long, and thirteen in extent; the whole upper parts are of a bright reddish brown; wings crossed with two bars of white, relieved with black; tips and inner vanes of the wings dusky; tail very long, rounded at the end, broad, and of the same reddish brown as the back; whole lower parts yellowish white; the breast, and sides under the wings, beautifully marked with long pointed spots of black, running in chains; chin white; bill very long and stout, not notched, the upper mandible overhanging the lower a little, and beset with strong bristles at the base, black above, and whitish below near the base; legs remarkably strong and of a dusky clay color; iris of the eye brilliant yellow. The female may be distinguished from the male by the white on the wing being much nar-

rower, and the spots on the breast less. In other respects their plumage is nearly alike.

Concerning the sagacity and reasoning faculty of this bird my venerable friend Mr. Bartram writes me as follows: "I remember to have reared one of these birds from the nest; which when full grown became very tame and docile. I frequently let him out of his cage to give him a taste of liberty; after fluttering and dusting himself in dry sand and earth, and bathing, washing and dressing himself, he would proceed to hunt insects, such as beetles, crickets, and other shelly tribes; but being very fond of wasps, after catching them and knocking them about to break their wings, he would lay them down, then examine if they had a sting, and with his bill squeeze the abdomen to clear it of the reservoir of poison, before he would swallow his prey. When in his cage, being very fond of dry crusts of bread, if upon trial the corners of the crumbs were too hard and sharp for his throat, he would throw them up, carry and put them in his water-dish to soften; then take them out and swallow them. Many other remarkable circumstances might be mentioned that would fully demonstrate faculties of *mind*; not only innate, but acquired ideas (derived from necessity in a state of domestication) which we call understanding and knowledge. We see that this bird could associate those ideas, arrange and apply them in a rational manner, according to circumstances. For instance, if he knew that it was the hard sharp corners of the crumb of bread that hurt his gullet, and prevented him from swallowing it, and that water would soften and render it easy to be swallowed, this knowledge must be acquired by observation and experience; or some other bird taught him. Here the bird perceived by the effect the cause, and then took the quickest, the most effectual, and agreeable method to remove that cause. What could the wisest man have done better? Call it reason, or instinct, it is the same that a sensible man would have done in this case.

"After the same manner this bird reasoned with respect to the wasps. He found, by experience and observation, that the first he attempted to swallow hurt his throat, and gave him extreme pain; and upon examination observed that the extremity of the abdomen was armed with a poisonous sting; and after this discovery, never attempted to swallow a wasp until he first pinched his abdomen to the extremity, forcing out the sting with the receptacle of poison."

It is certainly a circumstance highly honorable to the character of birds, and corroborative of the foregoing sentiments, that those who have paid the most minute attention to their manners are uniformly their advocates and admirers. "He must," said a gentleman to me the other day, when speaking of another person, "he must be a good man; for those who have long known him and are most intimate with him respect him greatly and always speak well of him."

SPECIES III. *TURDUS MELODUS*.*

WOOD THRUSH.

[Plate II. Fig. 1.]

BARTRAM, p. 290.

THIS bird is represented on the plate of its natural size; and particular attention has been paid to render the figure a faithful likeness of the original. It measures eight inches in length, and thirteen from tip to tip of the expanded wings; the bill is an inch long, the upper mandible of a dusky brown, bent at the point, and slightly notched; the lower a flesh color towards the base; the legs are long, and, as well as the claws, of a pale flesh color, or almost transparent. The whole upper parts are of a brown fulvous color brightening into reddish on the head, and inclining to an olive on the rump and tail; chin white; throat and breast white, tinged with a light buff color, and beautifully marked with pointed spots of black or dusky, running in chains from the sides of the mouth, and intersecting each other all over the breast to the belly, which, with the vent, is of a pure white; a narrow circle of white surrounds the eye, which is large, full, the pupil black, and the iris of a dark chocolate color; the inside of the mouth is yellow. The male and female of this species, as indeed of almost the whole genus of Thrushes, differ so little as scarcely to be distinguished from each other. It is called by some the Wood Robin, by others the Ground Robin, and by some of our American ornithologists *Turdus minor*, though, as will hereafter appear, improperly. The present name has been adopted from Mr. William Bartram, who seems to have been the first and almost only naturalist who has taken notice of the merits of this bird.

This sweet and solitary songster inhabits the whole of North America from Hudson's Bay to the peninsula of Florida. He arrives in Pennsylvania about the 20th of April, or soon after; and returns to the south about the beginning of October. The lateness or earliness of the season seems to make less difference in the times of arrival of our birds of

* *Turdus mustelinus*, GMELIN, which name must be adopted.—We add the following synonyms:—*T. mustelinus*, GMEL. *Syst.* I., p. 817.—LATH. *Syn.* III., p. 28.—VIEILL. *Ois de l'Am. Sept. pl.* 62.—Tawny Thrush, *Arct. Zool.* II., p. 337. No. 198.

passage than is generally imagined. Early in April the woods are often in considerable forwardness, and scarce a summer bird to be seen. On the other hand vegetation is sometimes no farther advanced on the 20th of April, at which time (*e. g.* this present year 1807) numbers of Wood Thrushes are seen flitting through the moist woody hollows, and a variety of the *Motacilla* genus chattering from almost every bush, with scarce an expanded leaf to conceal them. But at whatever time the Wood Thrush may arrive, he soon announces his presence in the woods. With the dawn of the succeeding morning, mounting to the top of some tall tree that rises from a low thick-shaded part of the woods, he pipes his few but clear and musical notes in a kind of ecstasy; the prelude, or symphony to which, strongly resembles the double tonguing of a German flute, and sometimes the tinkling of a small bell; the whole song consists of five or six parts, the last note of each of which is in such a tone as to leave the conclusion evidently suspended; the finale is finely managed, and with such charming effect as to soothe and tranquillize the mind, and to seem sweeter and mellower at each successive repetition. Rival songsters, of the same species, challenge each other from different parts of the wood, seeming to vie for softer tones and more exquisite responses. During the burning heat of the day, they are comparatively mute; but in the evening the same melody is renewed, and continued long after sunset. Those who visit our woods, or ride out into the country at these hours, during the months of May and June, will be at no loss to recognise, from the above description, this pleasing musician. Even in dark, wet and gloomy weather, when scarce a single chirp is heard from any other bird, the clear notes of the Wood Thrush thrill through the dropping woods from morning to night; and it may truly be said that, the sadder the day the sweeter is his song.

The favorite haunts of the Wood Thrush are low, thick-shaded hollows, through which a small brook or rill meanders, overhung with alder bushes that are mantled with wild vines. Near such a scene he generally builds his nest, in a laurel or alder bush. Outwardly it is composed of withered beech leaves of the preceding year, laid at bottom in considerable quantities, no doubt to prevent damp and moisture from ascending through, being generally built in low wet situations; above these are layers of knotty stalks of withered grass, mixed with mud, and smoothly plastered, above which is laid a slight lining of fine black fibrous roots of plants. The eggs are four, sometimes five, of a uniform light blue, without any spots.

The Wood Thrush appears always singly or in pairs, and is of a shy retired unobtrusive disposition. With the modesty of true merit he charms you with his song; but is content and even solicitous to be concealed. He delights to trace the irregular windings of the brook, where by the luxuriance of foliage the sun is completely shut out, or only

plays in a few interrupted beams on the glittering surface of the water. He is also fond of a particular species of lichen which grows in such situations, and which, towards the fall, I have uniformly found in their stomachs; berries, however, of various kinds, are his principal food, as well as beetles and caterpillars. The feathers on the hind head are longer than is usual with birds which have no crest; these he sometimes erects; but this particular cannot be observed but on a close examination.

Those who have paid minute attention to the singing of birds know well, that the voice, energy, and expression, in the same tribe, differ as widely, as the voices of different individuals of the human species, or as one singer does from another. The powers of song in some individuals of the Wood Thrush have often surprised and delighted me. Of these I remember one, many years ago, whose notes I could instantly recognise on entering the woods, and with whom I had been as it were acquainted from his first arrival. The top of a large white-oak that overhung part of the glen, was usually the favorite pinnacle from whence he poured the sweetest melody; to which I had frequently listened till night began to gather in the woods; and the fire-flies to sparkle among the branches. But alas! in the pathetic language of the poet,

“One morn I missed him on the accustomed hill,
Along the vale, and on his favorite tree—
Another came, nor yet beside the rill,
Nor up the glen nor in the wood was he.”

A few days afterwards, passing along the edge of the rocks, I found fragments of the wings and broken feathers of a Wood Thrush killed by the Hawk, which I contemplated with unfeigned regret, and not without a determination to retaliate on the first of these murderers I could meet with.

That I may not seem singular in my estimation of this bird, I shall subjoin an extract of a letter from a distinguished American gentleman to whom I had sent some drawings, and whose name, were I at liberty to give it, would do honor to my humble performance, and render any further observations on the subject from me unnecessary.

“As you are curious in birds, there is one well worthy your attention, to be found, or rather heard, in every part of America, and yet scarcely ever to be seen. It is in all the forests from spring to fall, and never but on the tops of the tallest trees, from which it perpetually serenades us with some of the sweetest notes, and as clear as those of the Nightingale. I have followed it for miles without ever but once getting a good view of it. It is of the size and make of the Mocking-bird, lightly thrush-colored on the back, and a grayish white on the breast and belly. Mr. —, my son-in-law, was in possession of one which had been shot

by a neighbor, he pronounced it a *Muscicapa*, and I think it much resembles the *Moucherolle de la Martinique*, 8 Buffon 374, Pl. Enlum. 568. As it abounds in all the neighborhood of Philadelphia, you may, perhaps, by patience and perseverance (of which much will be requisite) get a sight, if not a possession of it. I have for twenty years interested the young sportsmen of my neighborhood to shoot me one; but as yet without success."

It may seem strange that neither Sloane,* Catesby, Edwards nor Buffon, all of whom are said to have described this bird, should say anything of its melody; or rather, assert that it had only a single cry or scream. This I cannot account for in any other way than by supposing, what I think highly probable, that this bird has never been figured or described by any of the above authors.

Catesby has, indeed, represented a bird, which he calls *Turdus minimus*,† but it is difficult to discover, either from the figure or description, what particular species is meant; or whether it be really intended for the Wood Thrush we are now describing. It resembles, he says, the English Thrush; but is less, never sings; has only a single note, and abides all the year in Carolina. It must be confessed that, except the first circumstance, there are few features of the Wood Thrush in this description. I have myself searched the woods of Carolina and Georgia, in winter, for this bird, in vain, nor do I believe that it ever winters in these states. If Mr. Catesby found his bird mute during spring and summer, it was not the Wood Thrush; otherwise he must have changed his very nature. But Mr. Edwards has also described and delineated the Little Thrush,‡ and has referred to Catesby as having drawn and engraved it before. Now this Thrush of Edwards I know to be really a different species; one not resident in Pennsylvania, but passing to the north in May, and returning the same way in October, and may be distinguished from the true Song Thrush (*Turdus melodus*) by the spots being much broader, brown, and not descending below the breast. It is also an inch shorter, with the cheeks of a bright tawny color. Mr. William Bartram, who transmitted this bird, more than fifty years ago, to Mr. Edwards, by whom it was drawn and engraved, examined the two species in my presence; and on comparing them with the one in Edwards, was satisfied that the bird there figured and described is not the Wood Thrush (*Turdus melodus*), but the tawny-cheeked species above mentioned. This species I have never seen in Pennsylvania but in spring and fall. It is still more solitary than the former, and utters, at rare times, a single cry, similar to that of a

* Hist. Jam. ii., 305.

† Catesby, Nat. Hist. Car. i., 31.

‡ Edwards, 296.

chicken which has lost its mother. This very bird I found numerous in the myrtle swamps of Carolina in the depth of winter, and I have not a doubt of its being the same which is described by Edwards and Catesby.

As the Count de Buffon has drawn his description from those above mentioned, the same observations apply equally to what he has said on the subject; and the fanciful theory which this writer had formed to account for its want of song, vanishes into empty air; viz., that the Song Thrush of Europe (*Turdus musicus*) had, at some time after the creation, rambled round by the Northern Ocean, and made its way to America; that advancing to the south it had there (of consequence) become degenerated by change of food and climate, so that its cry is now harsh and unpleasant, "as are the cries of all birds that live in wild countries inhabited by savages."*

For a figure and description of this passenger Thrush see the following species.

SPECIES IV. *TURDUS SOLITARIUS*.†

HERMIT THRUSH.

[Plate XLIII. Fig. 2.]

Little Thrush, CATESBY, I., 31.—EDWARDS, 296.—*Brown Thrush*, *Arct. Zool.* 337, No. 199.

THE dark solitary cane and myrtle swamps of the Southern States are the favorite native haunts of this silent and recluse species, and the more deep and gloomy these are, the more certain we are to meet with this bird flitting among them. This is the species mentioned while treating of the Wood Thrush, as having been figured and described more than fifty years ago by Edwards, from a dried specimen sent him by my friend Mr. William Bartram, under the supposition that it was the Wood Thrush (*Turdus melodus*). It is however considerably less, very differently marked, and altogether destitute of the clear voice and musical powers of that charming minstrel. It also differs in remaining in the Southern States during the whole year; whereas the Wood Thrush does

* Buffon, vol. iii., 289. The figure in Pl. Enl. 398, has little or no resemblance to the Wood Thrush, being of a deep green olive above, and spotted to the very vent, with long streaks of brown.

† *Turdus minor*, GMELIN, which name having the priority must be adopted.

We add the following synonymes:—*T. minor*, GM. *Syst.* I., p. 809.—LATH. *Syn.* III., p. 20, No. 5.—*Mauvis de la Caroline*, BUFF. *Pl. Enl.* 556, fig. 2. *Turdus fuscus*, GMEL. *Syst.* I., p. 817.—LATH. *Syn.* III., p. 28, No. 16.

not winter even in Georgia; nor arrives within the southern boundary of that state until some time in April.

The Hermit Thrush is rarely seen in Pennsylvania, unless for a few weeks in spring and late in the fall, long after the Wood Thrush has left us, and when scarcely a summer bird remains in the woods. In both seasons it is mute, having only, in spring, an occasional squeak like that of a young stray chicken. Along the Atlantic coast in New Jersey they remain longer and later, as I have observed them there late in November. In the cane swamps of the Choctaw nation they were frequent in the month of May, on the twelfth of which I examined one of their nests on a horizontal branch immediately over the path. The female was sitting, and left it with great reluctance, so that I had nearly laid my hand on her before she flew. The nest was fixed on the upper part of the body of the branch, and constructed with great neatness; but without mud or plaster, contrary to the custom of the Wood Thrush. The outside was composed of a considerable quantity of coarse rooty grass, intermixed with horse-hair, and lined with a fine green colored, thread-like grass, perfectly dry, laid circularly with particular neatness. The eggs were four, of a pale greenish blue, marked with specks and blotches of olive, particularly at the great end. I also observed this bird on the banks of the Cumberland river in April. Its food consists chiefly of berries, of which these low swamps furnish a perpetual abundance, such as those of the holly, myrtle, gall bush (a species of *vaccinium*), yapon shrub, and many others.

A superficial observer would instantly pronounce this to be only a variety of the Wood Thrush; but taking into consideration its difference of size, color, manners, want of song, secluded habits, differently formed nest, and spotted eggs, all unlike those of the former, with which it never associates, it is impossible not to conclude it to be a distinct and separate species, however near it may approach to that of the former. Its food, and the country it inhabits for half the year, being the same, neither could have produced those differences; and we must believe it to be now, what it ever has and ever will be, a distinct connecting link in the great chain of this part of animated nature; all the sublime reasoning of certain theoretical closet philosophers to the contrary notwithstanding.

Length of the Hermit Thrush seven inches, extent ten inches and a half; upper parts plain deep olive brown, lower dull white; upper part of the breast and throat dull cream color, deepest where the plumage falls over the shoulders of the wing, and marked with large dark brown pointed spots; ear feathers and line over the eye cream, the former mottled with olive; edges of the wings lighter, tips dusky; tail coverts and tail inclining to a reddish fox color. In the Wood Thrush these parts incline to greenish olive. Tail slightly forked; legs dusky; bill

black above and at the tip, whitish below ; iris black and very full ; chin whitish.

The female differs very little, chiefly in being generally darker in the tints, and having the spots on the breast larger and more dusky.

SPECIES V. *TURDUS MUSTELINUS*.

TAWNY THRUSH.

[Plate XLIII. Fig. 3.]

THIS species makes its appearance in Pennsylvania from the south regularly about the beginning of May, stays with us a week or two, and passes on to the north and to the high mountainous districts to breed. It has no song, but a sharp chuck. About the twentieth of May I met with numbers of them in the great Pine swamp, near Pocaño ; and on the twenty-fifth of September, in the same year, I shot several of them in the neighborhood of Mr. Bartram's place. I have examined many of these birds in spring, and also on their return in fall, and found very little difference among them between the male and female. In some specimens the wing coverts were brownish yellow ; these appeared to be young birds. I have no doubt but they breed in the northern high districts of the United States ; but I have not yet been able to discover their nests.

The Tawny Thrush is ten inches long, and twelve inches in extent ; the whole upper parts are a uniform tawny brown ; the lower parts white ; sides of the breast and under the wings slightly tinged with ash ; chin white ; throat and upper parts of the breast cream colored, and marked with pointed spots of brown ; lores pale ash, or bluish white ; cheeks dusky brown ; tail nearly even at the end, the shafts of all, as well as those of the wing quills, continued a little beyond their webs ; bill black above and at the point, below at the base flesh colored ; corners of the mouth yellow ; eye large and dark, surrounded with a white ring ; legs long, slender and pale brown.

Though I have given this bird the same name that Mr. Pennant has applied to one of our Thrushes, it must not be considered as the same ; the bird which he has denominated the *Tawny Thrush* being evidently from its size, markings, &c.

No description of the bird here figured, has, to my knowledge, appeared in any former publication.*

* As Wilson supposed, this bird had not been previously described ; he has however created some confusion by giving to it the name of an old species. That name

SPECIES VI. *TURDUS AQUATICUS*.*

WATER THRUSH.

[Plate XXIII. Fig. 5.]

THIS bird is remarkable for its partiality to brooks, rivers, shores, ponds, and streams of water; wading in the shallows in search of aquatic insects, wagging the tail almost continually, chattering as it flies, and, in short, possesses many strong traits and habits of the Water Wagtail. It is also exceedingly shy, darting away on the least attempt to approach it, and uttering a sharp chip, repeatedly, as if greatly alarmed. Among the mountain streams in the state of Tennessee, I found a variety of this bird pretty numerous, with legs of a bright yellow color; in other respects it differed not from the rest. About the beginning of May it passes through Pennsylvania to the north; is seen along the channels of our solitary streams for ten or twelve days; afterwards disappears until August. It is probable that it breeds in the higher mountainous districts even of this state, as do many other of our spring visitants that regularly pass a week or two with us in the lower parts, and then retire to the mountains and inland forests to breed.

But Pennsylvania is not the favorite resort of this species. The cane-brakes, swamps, river shores, and deep watery solitudes of Louisiana, Tennessee, and the Mississippi Territory, possess them in abundance; there they are eminently distinguished by the loudness, sweetness and expressive vivacity of their notes, which begin very high and clear,

(*mustelinus*) must be restored to the bird to which it was originally applied, the *Wood Thrush*, and the *Turdus Wilsonii* as proposed by Prince Musignano, be adopted for this.

Synonymes: *T. Wilsonii*, BONAPARTE, *Obs. Journ. Acad. Nat. Sc.* vol. iv., p. 34.—*Id. Synop. Annales Lyc. Nat. Hist.* vol. II., p. 75.

* Prince Musignano asserts that this is the *Sylvia noveboracensis*, LATHAM, and quotes the following synonyms:—*MOTACILLA noveboracensis*, GMEL.—*SYLVIA noveboracensis*, LATH.—VIEILL. pl. 82.—*MOTACILLA tigrina*, var. β , GMEL. female and young.—*SYLVIA tigrina*, var. β , LATH. female and young.—*SYLVIA anthoides*, VIEILL. *Nouv. Dict. d'Hist. Nat.*—*FICEDULA dominicensis fusca*, BRISS. female and young.—*Fauvette tachetée de la Louisiane*, BUFF. *Pl. Enl.* 752, f. 1, a very bad figure.—*New York warbler*, PENN. *Arct. Zool.*—LATH. *Syn.*

It resembles in habits and appearance, and is we believe, also, the *Turdus motacilla* of VIEILLLOT, pl. 65.

falling with an almost imperceptible gradation till they are scarcely articulated. At these times the musician is perched on the middle branches of a tree over the brook or river bank, pouring out his charming melody, that may be distinctly heard for nearly half a mile.

The voice of this little bird appeared to me so exquisitely sweet and expressive, that I was never tired of listening to it, while traversing the deep shaded hollows of those cane-brakes where it usually resorts. I have never yet met with its nest.

The Water Thrush is six inches long, and nine and a half in extent; the whole upper parts are of a uniform and very dark olive, with a line of white extending over the eye, and along the sides of the neck; the lower parts are white, tinged with yellow ochre; the whole breast and sides are marked with pointed spots or streaks of black or deep brown; bill dusky brown; legs flesh-colored; tail nearly even; bill formed almost exactly like the Golden-crowned Thrush (*Turdus aurocapillus*), and except in frequenting the water, much resembling it in manners. Male and female nearly alike.

SPECIES VII. *TURDUS AUROCAPILLUS*.

GOLDEN-CROWNED THRUSH.

[Plate XIV. Fig. 2.]

EDW. 252.—LATH. III., 21.—*La figuier à tête d'or*, BRISS. III., 504.—*La Grivelette de St. Domingue*, BUFF. III., 317, *Pl. Enl.* 398.—*Arct. Zool.* p. 339, No: 203.—*Turdus minimus, vertice Aurio, the least Golden-crown Thrush*, BARTRAM, p. 290.

THOUGH the epithet *golden-crowned*, is not very suitable for this bird, that part of the head being rather of a brownish orange, yet, to avoid confusion, I have retained it.

This is also a migratory species, arriving in Pennsylvania late in April, and leaving us again late in September. It is altogether an inhabitant of the woods, runs along the ground like a lark, and even along the horizontal branches, frequently moving its tail in the manner of the Wagtails. It has no song; but a shrill, energetic twitter, formed by the rapid reiteration of two notes, *peche, peche, peche*, for a quarter of a minute at a time. It builds a snug, somewhat singular nest, on the ground, in the woods, generally on a declivity facing the south. This is formed of leaves and dry grass, and lined with hair. Though sunk below the surface, it is arched over, and only a small hole left for entrance; the eggs are four, sometimes five, white, irregularly spotted

with reddish brown, chiefly near the great end. When alarmed it escapes from the nest with great silence and rapidity, running along the ground like a mouse, as if afraid to tread too heavily on the leaves; if you stop to examine its nest, it also stops, droops its wings, flutters and tumbles along, as if hardly able to crawl, looking back now and then to see whether you are taking notice of it. If you slowly follow, it leads you fifty or sixty yards off, in a direct line from its nest, seeming at every advance to be gaining fresh strength; and when it thinks it has decoyed you to a sufficient distance, it suddenly wheels off and disappears. This kind of deception is practised by many other species of birds that build on the ground; and is sometimes so adroitly performed as actually to have the desired effect of securing the safety of its nest and young.

This is one of those birds frequently selected by the Cowpen Bunting to be the foster-parent of its young. Into the nest of this bird the Cow Bird deposits its egg, and leaves the result to the mercy and management of the Thrush, who generally performs the part of a faithful and affectionate nurse to the foundling.

The Golden-crowned Thrush is six inches long, and nine in extent; the whole upper parts, except the crown and hind head, are a rich yellow olive; the tips of the wings and inner vanes of the quills, are dusky brown; from the nostrils a black strip passes to the hind head on each side, between which lies a bed of brownish orange; the sides of the neck are whitish; the whole lower parts white, except the breast, which is handsomely marked with pointed spots of black, or deep brown, as in the figure; round the eye is a narrow ring of yellowish white; legs pale flesh color; bill dusky above, whitish below. The female has the orange on the crown considerably paler.

This bird might with propriety be ranged with the Wagtails, its notes, manners, and habit of building on the ground being similar to these. It usually hatches twice in the season; feeds on small bugs, and the larvæ of insects, which it chiefly gathers from the ground. It is very generally diffused over the United States; and winters in Jamaica, Hispaniola, and other islands of the West Indies.

SPECIES VIII. *TURDUS LIVIDUS*.

C A T - B I R D.

[Plate XIV. Fig. 3.]

Muscicapa Carolinensis, LINN. *Syst.* 328.—*Le gobe-mouche brun de Virginie*, BRISS. II., 365.—*Cat-bird*, CATESB. I., 66.—LATHAM, II., 353.—*Le moucherolle de Virginie*, BUFF. IV., 562.—*Lucar lividus, apice nigra, the Cat-bird, or Chicken-bird*, BARTRAM, p. 290.

WE have here before us a very common and very numerous species, in this part of the United States; and one as well known to all classes of people, as his favorite briars, or blackberry bushes. In spring or summer, on approaching thickets of brambles, the first salutation you receive is from the Cat-bird; and a stranger, unacquainted with its note, would instantly conclude that some vagrant orphan kitten had got bewildered among the briars, and wanted assistance; so exactly does the call of the bird resemble the voice of that animal. Unsuspicious, and extremely familiar, he seems less apprehensive of man than almost any other of our summer visitants; for whether in the woods, or in the garden, where he frequently builds his nest, he seldom allows you to pass without approaching to pay his respects, in his usual way. This humble familiarity and deference, from a stranger too, who comes to rear his young, and spend the summer with us, ought to entitle him to a full share of our hospitality. Sorry I am, however, to say, that this, in too many instances, is cruelly the reverse. Of this I will speak more particularly in the sequel.

About the twenty-eighth of February the Cat-bird first arrives in the lower parts of Georgia from the south, consequently winters not far distant, probably in Florida. On the second week in April he usually reaches this part of Pennsylvania; and about the beginning of May has already succeeded in building his nest. The place chosen for this purpose is generally a thicket of briars or brambles, a thorn bush, thick vine or the fork of a small sapling; no great solicitude is shown for concealment; though few birds appear more interested for the safety of their nest and young. The materials are dry leaves and weeds, small twigs and fine dry grass, the inside is lined with the fine black fibrous roots of some plant. The female lays four, sometimes five eggs, of a uniform greenish blue color, without any spots. They generally raise two, and sometimes three broods in a season.

In passing through the woods in summer I have sometimes amused myself with imitating the violent chirping or squeaking of young birds, in order to observe what different species were around me, for such sounds, at such a season in the woods, are no less alarming to the feathered tenants of the bushes than the cry of fire or murder in the streets, is to the inhabitants of a large and populous city. On such occasions of alarm and consternation, the Cat-bird is the first to make his appearance, not singly, but sometimes half a dozen at a time, flying from different quarters to the spot. At this time those who are disposed to play with his feelings may almost throw him into fits, his emotion and agitation are so great, at the distressful cries of what he supposes to be his suffering young. Other birds are variously affected; but none show symptoms of such extreme suffering. He hurries backwards and forwards, with hanging wings and open mouth, calling out louder and faster, and actually screaming with distress, till he appears hoarse with his exertions. He attempts no offensive means; but he bewails, he implores, in the most pathetic terms with which nature has supplied him, and with an agony of feeling which is truly affecting. Every feathered neighbor within hearing hastens to the place to learn the cause of the alarm, peeping about with looks of consternation and sympathy. But their own powerful parental duties and domestic concerns soon oblige each to withdraw. At any other season, the most perfect imitations have no effect whatever on him.

The Cat-bird will not easily desert its nest. I took two eggs from one which was sitting, and in their place put two of the Brown Thrush, or Thrasher; and took my stand at a convenient distance to see how she would behave. In a minute or two the male made his approaches, stooped down and looked earnestly at the strange eggs; then flew off to his mate, who was not far distant, with whom he seemed to have some conversation, and instantly returning, with the greatest gentleness took out both the Thrasher's eggs, first one and then the other, carried them singly about thirty yards, and dropped them among the bushes. I then returned the two eggs I had taken, and soon after the female resumed her place on the nest as before.

From the nest of another Cat-bird I took two half fledged young, and placed them in that of another which was sitting on five eggs. She soon turned them both out. The place where the nest was, not being far from the ground, they were little injured, and the male observing their helpless situation, began to feed them with great assiduity and tenderness.

I removed the nest of a Cat-bird, which contained four eggs, nearly hatched, from a fox-grape vine, and fixed it firmly and carefully in a thicket of briars close by, without injuring its contents. In less than half an hour I returned, and found it again occupied by the female

The Cat-bird is one of our earliest morning songsters, beginning generally before break of day, and hovering from bush to bush, with great sprightliness, when there is scarce light sufficient to distinguish him. His notes are more remarkable for singularity than for melody. They consist of short imitations of other birds, and other sounds; but his pipe being rather deficient in clearness and strength of tone, his imitations fail where these are requisite. Yet he is not easily discouraged, but seems to study certain passages with great perseverance; uttering them at first low, and as he succeeds, higher and more free; no ways embarrassed by the presence of a spectator even within a few yards of him. On attentively listening for some time to him one can perceive considerable variety in his performance, in which he seems to introduce all the odd sounds and quaint passages he has been able to collect. Upon the whole, though we cannot arrange him with the grand leaders of our vernal choristers, he well merits a place among the most agreeable *general* performers.

This bird, as has been before observed, is very numerous in summer, in the Middle States. Scarcely a thicket in the country is without its Cat-birds; and were they to fly in flocks, like many other birds, they would darken the air with their numbers. But their migrations are seldom observed, owing to their *gradual* progress and recession, in spring and autumn, to and from their breeding places. They enter Georgia late in February; and reach New England about the beginning of May. In their migrations they keep pace with the progress of agriculture; and the first settlers in many parts of the Genesee country have told me, that it was several years after they removed there before the Cat-bird made his appearance among them. With all these amiable qualities to recommend him few people in the country respect the Cat-bird. On the contrary, it is generally the object of dislike; and the boys of the United States entertain the same prejudice and contempt for this bird, its nest and young, as those of Britain do for the Yellow Hammer and its nest, eggs and young. I am at a loss to account for this cruel prejudice. Even those by whom it is entertained, can scarcely tell you *why*; only they "hate Cat-birds;" as some persons tell you they hate Frenchmen, they hate Dutchmen, &c., expressions that bespeak their own narrowness of understanding, and want of liberality. Yet, after ruminating over in my own mind all the probable causes, I think I have at last hit on some of them; the principal of which seems to me to be a certain similarity of taste, and clashing of interest, between the Cat-bird and the farmer. The Cat-bird is fond of large ripe garden strawberries; so is the farmer, for the good price they bring in market. The Cat-bird loves the best and richest early cherries; so does the farmer, for they are sometimes the most profitable of his early fruit. The Cat-bird has a particular partiality for the finest ripe mellow

pears; and these are also particular favorites with the farmer. But the Cat-bird has frequently the advantage of the farmer by snatching off the *first-fruits* of these delicious productions; and the farmer takes revenge by shooting him down with his gun, as he finds old hats, wind-mills and scarecrows are no impediments in his way to these forbidden fruits; and nothing but this resource, the *ultimatum* of farmers as well as kings, can restrain his visits. The boys are now set to watch the cherry trees with the gun; and thus commences a train of prejudices and antipathies that commonly continue through life. Perhaps, too, the common note of the Cat-bird, so like the mewling of the animal whose name it bears, and who itself sustains no small share of prejudice, the homeliness of his plumage, and even his familiarity, so proverbially known to beget contempt, may also contribute to this mean, illiberal and persecuting prejudice; but with the generous and the good, the lovers of nature and of rural charms, the confidence which this familiar bird places in man by building in his garden, under his eye, the music of his song, and the interesting playfulness of his manners, will always be more than a recompense for all the little stolen morsels he snatches.

The Cat-bird measures nine inches in length; at a small distance he appears nearly black; but on a closer examination is of a deep slate color above, lightest on the edges of the primaries, and of a considerably lighter slate color below, except the under tail coverts, which are very dark red; the tail, which is rounded, and upper part of the head, as well as the legs and bill, are black. The female differs little in color from the male. Latham takes notice of a bird exactly resembling this, being found at Kamtschatka; only it wanted the red under the tail: probably it might have been a young bird, in which the red is scarcely observable.

This bird has been very improperly classed among the Fly-Catchers. As he never seizes his prey on wing, has none of their manners, feeds principally on fruit, and seems to differ so little from the Thrushes, I think he more properly belongs to the latter tribe than to any other genus we have. His bill, legs and feet, place and mode of building, the color of the eggs, his imitative notes, food and general manners, all justify me in removing him to this genus.

The Cat-bird is one of those unfortunate victims, and indeed the principal, against which credulity and ignorance have so often directed the fascinating quality of the blacksnake. A multitude of marvellous stories have been told me by people who have themselves *seen* the poor Cat-birds drawn, or sucked, as they sometimes express it, from the tops of the trees (which, by-the-bye, the Cat-bird rarely visits) one by one, into the yawning mouth of the immovable snake. It has so happened with me that in all the adventures of this kind that I have personally

witnessed, the Cat-bird was actually the assailant, and always the successful one. These rencontres never take place but during the breeding time of birds; for whose eggs and young the snake has a particular partiality. It is no wonder that those species whose nests are usually built near the ground, should be the greatest sufferers, and the most solicitous for their safety; hence the cause why the Cat-bird makes such a distinguished figure in most of these marvellous narrations. That a poisonous snake will strike a bird or mouse, and allow it to remain till nearly expiring before he begins to devour it, our observations on the living rattlesnake kept by Mr. Peale, satisfy us is a fact; but that the same snake, with eyes, breath, or any other known quality he possesses, should be capable of drawing a bird, reluctantly, from the tree tops to its mouth, is an absurdity too great for *me* to swallow.

I am led to these observations by a note which I received this morning from my worthy friend Mr. Bartram. "Yesterday," says this gentleman, "I observed a conflict, or contest, between a Cat-bird and a snake. It took place in a gravel walk, in the garden, near a dry wall of stone. I was within a few yards of the combatants. The bird pounced or darted upon the snake, snapping his bill; the snake would then draw himself quickly into a coil, ready for a blow; but the bird would cautiously circumvent him at a little distance, now and then running up to and snapping at him; but keeping at a sufficient distance to avoid a blow. After some minutes it became a running fight, the snake retreating; and at last took shelter in the wall. The Cat-bird had young ones in the bushes near the field of battle.

"This may show the possibility of poisonous snakes biting birds, the operation of the poison causing them to become as it were fascinated."

SPECIES IX. *TURDUS MIGRATORIUS.*

ROBIN.

[Plate II. Fig. 2.]

LINN. *Syst.* I., p. 292, 6.—*Turdus Canadensis*, BRISS. II., p. 225, 9.—*La Litorne de Canada*, BUFF. III., p. 307.—*Grive de Canada*, PL. ENL. 556, 1.—*Fieldfare of Carolina*, CAT. CAR. I, 29.—*Red-breasted Thrush*, ARCT. ZOO. II., No. 196.—LATH. *Syn.* II., p. 26.—BARTRAM, p. 290.

THIS well known bird, being familiar to almost every body, will require but a short description. It measures nine inches and a half in length; the bill is strong, an inch long, and of a full yellow, though sometimes black, or dusky near the tip of the upper mandible; the head, back of the neck and tail is black; the back and rump an ash color; the wings are black edged with light ash; the inner tips of the two exterior tail feathers are white; three small spots of white border the eye; the throat and upper part of the breast is black, the former streaked with white; the whole of the rest of the breast, down as far as the thighs, is of a dark orange; belly and vent white, slightly waved with dusky ash; legs dark brown; claws black and strong. The colors of the female are more of the light ash, less deepened with black; and the orange on the breast is much paler, and more broadly skirted with white. The name of this bird bespeaks him a bird of passage, as are all the different species of Thrushes we have; but the one we are now describing being more unsettled, and continually roving about from one region to another, during fall and winter, seems particularly entitled to the appellation. Scarce a winter passes but innumerable thousands of them are seen in the lower parts of the whole Atlantic states, from New Hampshire to Carolina, particularly in the neighborhood of our towns; and from the circumstance of their leaving, during that season, the country to the north-west of the great range of the Alleghany, from Maryland northward, it would appear that they not only migrate from north to south, but from west to east, to avoid the deep snows that generally prevail on these high regions for at least four months in the year.

The Robin builds a large nest, often on an apple tree, plasters it in the inside with mud, and lines it with hay or fine grass. The female lays five eggs of a beautiful sea green. Their principal food is berries, worms and caterpillars. Of the first he prefers those of the sour gum

(*Nyssa sylvatica*). So fond are they of gum berries, that wherever there is one of these trees covered with fruit, and flocks of Robins in the neighborhood, the sportsman need only take his stand near it, load, take aim, and fire; one flock succeeding another with little interruption, almost the whole day; by this method prodigious slaughter has been made among them with little fatigue. When berries fail they disperse themselves over the fields, and along the fences, in search of worms and other insects. Sometimes they will disappear for a week or two, and return again in greater numbers than before; at which time the cities pour out their sportsmen by scores, and the markets are plentifully supplied with them at a cheap rate. In January 1807, two young men, in one excursion after them, shot thirty dozen. In the midst of such devastation, which continued many weeks, and by accounts extended from Massachusetts to Maryland, some humane person took advantage of a circumstance common to these birds in winter, to stop the general slaughter. The fruit called poke-berries (*Phytolacca decandra*, Linn.) is a favorite repast with the Robin, after they are mellowed by the frost. The juice of the berries is of a beautiful crimson, and they are eaten in such quantities by these birds, that their whole stomachs are strongly tinged with the same red color. A paragraph appeared in the public papers, intimating, that from the great quantities of these berries which the Robins had fed on, they had become unwholesome, and even dangerous food; and that several persons had suffered by eating of them. The strange appearance of the bowels of the birds seemed to corroborate this account. The demand for, and use of them ceased almost instantly; and motives of self-preservation produced at once what all the pleadings of humanity could not effect.* When fat they are in considerable esteem for the table, and probably not inferior to the *turdi* of the ancients, which they bestowed so much pains on in feeding and fattening. The young birds are frequently and easily raised, bear the confinement of the cage, feed on bread, fruits, &c., sing well, readily learn to imitate parts of tunes, and are very pleasant and cheerful domestics. In these I have always observed that the orange on the breast is of a much deeper tint, often a dark mahogany or chestnut color, owing no doubt to their food and confinement.

The Robin is one of our earliest songsters; even in March, while snow yet dapples the fields, and flocks of them are dispersed about, some few will mount a post or stake of the fence, and make short and

* Governor Drayton, in his "View of South Carolina," p. 86, observes that "the Robins in winter devour the berries of the Bead tree (*Melia Azedarach*), in such large quantities, that after eating of them they are observed to fall down, and are readily taken. This is ascribed more to distension from abundant eating than from any deleterious qualities of the plant." The fact, however, is, that they are literally choked, many of the berries being too large to be swallowed.

frequent attempts at their song. Early in April, they are only to be seen in pairs, and deliver their notes with great earnestness, from the top of some tree detached from the woods. This song has some resemblance to, and indeed is no bad imitation of the notes of the Thrush or Thrasher (*Turdus rufus*); but if deficient in point of execution, he possesses more simplicity; and makes up in zeal what he wants in talent; so that the notes of the Robin, in spring, are universally known, and as universally beloved. They are as it were the prelude to the grand general concert, that is about to burst upon us from woods, fields and thickets, whitened with blossoms, and breathing fragrance. By the usual association of ideas, we therefore listen with more pleasure to this cheerful bird than to many others possessed of far superior powers, and much greater variety. Even his nest is held more sacred among schoolboys than that of some others; and while they will exult in plundering a Jay's or a Cat-bird's, a general sentiment of respect prevails on the discovery of a Robin's. Whether he owes not some little of this veneration to the well known and long established character of his namesake in Britain, by a like association of ideas, I will not pretend to determine. He possesses a good deal of his suavity of manners; and almost always seeks shelter for his young in summer, and subsistence for himself in the extremes of winter, near the habitations of man.

The Robin inhabits the whole of North America from Hudson's Bay to Nootka Sound, and as far south as Georgia, though they rarely breed on this side the mountains farther south than Virginia. Mr. Forster says, that about the beginning of May they make their appearance in pairs at the settlements of Hudson's Bay, at Severn river; and adds, a circumstance altogether unworthy of belief, viz. that at Moose Fort they build, lay and hatch in fourteen days! but that at the former place, four degrees more north, they are said to take twenty-six days.* They are also common in Newfoundland, quitting these northern parts in October. The young during the first season are spotted with white on the breast, and at that time have a good deal of resemblance to the Fieldfare of Europe.

Mr. Hearne informs us, that the Red-breasted Thrushes, are commonly called at Hudson's Bay the Red-birds; by some the Blackbirds, on account of their note; and by others the American Fieldfares. That they make their appearance at Churchill river about the middle of May, and migrate to the south early in the fall. They are seldom seen there but in pairs; and are never killed for their flesh except by the Indian boys.†

Several authors have asserted, that the Red-Breasted Thrush cannot

* Phil. Trans. lxii., 399.

† Journey to the Northern Ocean, p. 418, quarto. Lond. 1795.

brook the confinement of the cage; and never sings in that state. But, except the Mocking-bird (*Turdus polyglottos*), I know of no native bird which is so frequently domesticated, agrees better with confinement, or sings in that state more agreeably than the Robin. They generally suffer severely in moulting time, yet often live to a considerable age. A lady who resides near Tarrytown, on the banks of the Hudson, informed me, that she raised, and kept one of these birds for seventeen years; which sung as well, and looked as sprightly, at that age as ever; but was at last unfortunately destroyed by a cat. The morning is their favorite time for song. In passing through the streets of our large cities, on Sunday, in the months of April and May, a little after daybreak, the general silence which usually prevails without at that hour, will enable you to distinguish every house where one of these songsters resides, as he makes it then ring with his music.

Not only the plumage of the Robin, as of many other birds, is subject to slight periodical changes of color, but even the legs, feet, and bill: the latter, in the male, being frequently found tipped and ridged for half its length with black. In the depth of winter their plumage is generally best; at which time the full grown bird, in his most perfect dress, appears as exhibited in the plate.

GENUS XXXIII. AMPELIS. CHATTERER.

SPECIES. *A. AMERICANA*.*

CEDAR-BIRD.

[Plate VII. Fig. 1.]

Ampelis garrulus, LINN. *Syst.* I., 297, 1. β .—*Bombycilla Carolinensis*, BRISSON II., 337, 1. *Id.* 8vo. I., 251.—*Chatterer of Carolina*, CATESB. I., 46.—*Arct. Zool.* II., No. 207.—LATH. *Syn.* III., 93, 1. *A.*—EDW. 242.—COOK'S *Last Voyage*, II., 518.—ELLIS'S *Voyage*, II., 13.

THE figure of the Cedar-bird which accompanies this description was drawn from a very beautiful specimen; and exhibits the form of its crest when erected, which gives it so gay and elegant an appearance. At pleasure it can lower and contract this so closely to its head and neck, as not to be observed. The plumage of these birds is of an exquisitely

* This species does not belong to the genus *Ampelis* as at present restricted, but to the genus *Bombycilla* of Brisson, adopted by most modern Ornithologists.

Brisson's specific name, *Carolinensis*, having the priority, must be adopted for this bird.

Wilson was wrong in quoting *Ampelis garrulus*, LINN., as a synonyme.

fine and silky texture, lying extremely smooth and glossy. Notwithstanding the name *Chatterers* given to them, they are perhaps the most silent species we have; making only a feeble, lisping sound, chiefly as they rise or alight. They fly in compact bodies, of from twenty to fifty; and usually alight so close together on the same tree, that one half are frequently shot down at a time. In the months of July and August, they collect together in flocks, and retire to the hilly parts of the state, the Blue Mountains and other collateral ridges of the Alleghany, to enjoy the fruit of the *Vaccinium uliginosum*, whortle-berries, which grow there in great abundance; whole mountains, for many miles, being almost entirely covered with them; and where in the month of August I have myself found the Cedar-birds numerous. In October they descend to the lower cultivated parts of the country, to feed on the berries of the sour gum, and red cedar, of which last they are immoderately fond; and thirty or forty may sometimes be seen fluttering among the branches of one small cedar tree, plucking off the berries. They are also found as far south as Mexico, as appears from the accounts of Fernandez, Seba, and others.* Fernandez saw them near Tetzecuo, and calls them *Coquantotl*; says they delight to dwell in the mountainous parts of the country; and that their flesh and song are both indifferent.† Most of our epicures here, are, however, of a different opinion, as to their palatableness; for in the fall, and beginning of summer, when they become very fat, they are in considerable esteem for the table; and great numbers are brought to the market of Philadelphia, where they are sold from twelve to twenty-five cents per dozen. During the whole winter and spring they are occasionally seen; and about the twenty-fifth of May appear in numerous parties, making great havoc among the early cherries, selecting the best and ripest of the fruit. Nor are they easily intimidated by the presence of Mr. Scarecrow; for I have seen a flock deliberately feasting on the fruit of a loaded cherry tree, while on the same tree one of these *guardian angels*, and a very formidable one too, stretched his stiffened arms, and displayed his dangling legs, with all the pomposity of authority! At this time of the season most of our resident birds, and many of our summer visitants, are sitting, or have young; while even on the first of June, the eggs in the ovary of the female Cedar-bird are no larger than mustard seed; and it is generally the eighth or tenth of that month before they begin to build. These last are curious circumstances, which it is difficult to account for, unless by supposing, that incubation is retarded by a scarcity of suitable food in spring; berries and other fruit being their usual

* The figure of this bird in Seba's voluminous work is too wretched for criticism; it is there called "Oiseau Xomotl d'Amerique huppee." Seb. II., p. 66, t. 65, fig. 5.

† Hist. Av. Nov. Hisp. 55.

fare. In May, before the cherries are ripe, they are lean, and little else is found in their stomachs than a few shrivelled cedar berries, the refuse of the former season, and a few fragments of beetles and other insects, which do not appear to be their common food; but in June, while cherries and strawberries abound, they become extremely fat: and about the tenth or twelfth of that month, disperse over the country in pairs to breed; sometimes fixing on the cedar, but generally choosing the orchard for that purpose. The nest is large for the size of the bird, fixed in the forked or horizontal branch of an apple tree, ten or twelve feet from the ground; outwardly, and at bottom, is laid a mass of coarse dry stalks of grass, and the inside is lined wholly with very fine stalks of the same material. The eggs are three or four, of a dingy bluish white, thick at the great end, tapering suddenly, and becoming very narrow at the other; marked with small roundish spots of black of various sizes and shades; and the great end is of a pale dull purple tinge, marked likewise with touches of various shades of purple and black. About the last week in June the young are hatched, and are at first fed on insects and their larvæ; but as they advance in growth, on berries of various kinds. These facts I have myself been an eye witness to. The female, if disturbed, darts from the nest in silence to a considerable distance; no notes of wailing or lamentation are heard from either parent, nor are they even seen, notwithstanding you are in the tree examining the nest and young. These nests are less frequently found than many others; owing not only to the comparatively few numbers of the birds, but to the remarkable muteness of the species. The season of love, which makes almost every other small bird musical, has no such effect on them; for they continue at that interesting period as silent as before.

This species is also found in Canada, where it is called *Recollet*, probably, as Dr. Latham supposes, from the color and appearance of its crest resembling the hood of an order of friars of that denomination; it has also been met with by several of our voyagers on the north-west coast of America, and appears to have an extensive range.

Almost all the ornithologists of Europe persist in considering this bird as a variety of the European Chatterer (*A. garrulus*), with what justice or propriety, a mere comparison of the two will determine. The European species is very nearly twice the cubic bulk of ours; has the whole lower parts of a uniform dark vinous bay; the tips of the wings streaked with lateral bars of yellow; the nostrils covered with bristles;* the feathers on the chin loose and tufted; the wings black; and the markings of white and black on the sides of the head different from the American, which is as follows:—Length seven inches, extent eleven inches; head, neck, breast, upper part of the back, and wing-coverts, a

* Turton.

dark fawn color; darkest on the back, and brightest on the front; head ornamented with a high pointed almost upright crest; line from the nostril over the eye to the hind head velvety black, bordered above with a fine line of white, and another line of white passes from the lower mandible; chin black, gradually brightening into fawn color, the feathers there lying extremely close; bill black, upper mandible nearly triangular at the base, without bristles, short, rounding at the point, where it is deeply notched; the lower scolloped at the tip and turning up; tongue, as in the rest of the genus, broad, thin, cartilaginous, and lacerated at the end; belly yellow; vent white; wings deep slate, except the two secondaries next the body, whose exterior vanes are of a fawn color, and interior ones white; forming two whitish strips there, which are very conspicuous; rump and tail coverts pale light blue, tail the same, gradually deepening into black, and tipped for half an inch with rich yellow. Six or seven, and sometimes the whole nine, secondary feathers of the wings, are ornamented at the tips with small red oblong appendages, resembling red sealing-wax; these appear to be a prolongation of the shafts, and to be intended for preserving the ends, and consequently the vanes, of the quills from being broken and worn away, by the almost continual fluttering of the bird among thick branches of the cedar. The feathers of those birds which are without these appendages are uniformly found ragged on the edges; but smooth and perfect in those on whom the marks are full and numerous. These singular marks have been usually considered as belonging to the male alone, from the circumstance, perhaps, of finding female birds without them. They are, however, common to both male and female. Six of the latter are now lying before me, each with large and numerous clusters of eggs, and having the waxen appendages in full perfection. The young birds do not receive them until the second fall, when, in moulting time, they may be seen fully formed, as the feather is developed from its sheath. I have once or twice found a solitary one on the extremity of one of the tail feathers. The eye is of a dark blood color; the legs and claws black; the inside of the mouth orange; gap wide; and the gullet capable of such distention as often to contain twelve or fifteen cedar berries, and serving as a kind of craw to prepare them for digestion. No wonder then that this gluttonous bird, with such a mass of food almost continually in his throat, should want both the inclination and powers for vocal melody, which would seem to belong to those only of less gross and voracious habits. The chief difference in the plumage of the male and female consists in the dullness of the tints of the latter, the inferior appearance of the crest, and the narrowness of the yellow bar on the tip of the tail.

Though I do not flatter myself with being able to remove that prejudice from the minds of foreigners, which has made them lock on this

bird, also, as a degenerate and not a distinct species from their own, yet they must allow that the change has been very great, very uniform, and universal, all over North America, where I have never heard that the European species has been found; or even if it were, this would only show more clearly the specific difference of the two, by proving that climate or food could never have produced these differences in either, when both retain them, though confined to the same climate.

But it is not only in the color of their plumage that these two birds differ, but in several important particulars, in their manners and habits. The breeding place of the European species is absolutely unknown; supposed to be somewhere about the polar regions; from whence, in winter, they make different and very irregular excursions to different parts of Europe; seldom advancing farther south than the north of England, in lat. 54° N., and so irregularly, that many years sometimes elapse between their departure and reappearance; which in more superstitious ages has been supposed to portend some great national calamity. On the other hand, the American species inhabits the whole extensive range between Mexico and Canada, and perhaps much farther both northerly and southerly, building and rearing their young in all the intermediate regions, often in our gardens and orchards, within a few yards of our houses.

In some parts of the country they are called Crown-birds; in others Cherry-birds, from their fondness for that fruit. They also feed on ripe persimmons, small winter grapes, bird-cherries, and a great variety of other fruits and berries. The action of the stomach on these seeds and berries does not seem to injure their vegetative powers; but rather to promote them, by imbedding them in a calcareous case, and they are thus transported to and planted in various and distant parts by these little birds. In other respects, however, their usefulness to the farmer may be questioned; and in the general chorus of the feathered songsters they can scarcely be said to take a part. We must therefore rank them far below many more homely and minute warblers, their neighbors, whom Providence seems to have formed, both as allies to protect the property of the husbandman from devouring insects, and as musicians to cheer him, while engaged in the labors of the field, with their innocent and delightful melody.

GENUS XXXV. LOXIA.* GROSBEAK.

SPECIES I. *L. CARDINALIS*.

CARDINAL GROSBEAK.

[Plate XI. Figs. 1, 2.]

LINN. *Syst.* I, p. 300, No. 5.—*Le Gros-bec de Virginie*, BRISS. *Orn.* III., p. 255, No. 17.—BUFF. III., p. 458, pl. 28. *Pl. Enl.* 37.—LATH. *Syn.* II., p. 118, No. 13.—*Cardinal*, BROWN'S *Jam.* p. 647.†

THIS is one of our most common cage birds; and is very generally known, not only in North America, but even in Europe; numbers of them having been carried over both to France and England, in which last country they are usually called Virginia Nightingales. To this name, Dr. Latham observes, "they are fully entitled," from the clearness and variety of their notes, which, both in a wild and domestic state, are very various and musical; many of them resemble the high notes of a fife, and are nearly as loud. They are in song from March to September, beginning at the first appearance of dawn, and repeating a favorite stanza, or passage, twenty or thirty times successively; sometimes with little intermission for a whole morning together; which, like a good story too often repeated, becomes at length tiresome and insipid. But the sprightly figure, and gaudy plumage of the Red-bird, his vivacity, strength of voice, and actual variety of note, and the little expense with which he is kept, will always make him a favorite.

This species, like the Mocking-bird, is more numerous to the east of the great range of the Alleghany Mountains; and inhabits from New England to Carthage. Michaux the younger, son to the celebrated botanist, informed me, that he found this bird numerous in the Bermudas. In Pennsylvania and the Northern States it is rather a scarce species; but through the whole lower parts of the Southern States, in the neighborhood of settlements, I found them much more numerous; their clear and lively notes, in the months of January and February,

* This genus, as constituted by Brisson and at present adopted, does not include the four species described under it by Wilson. The three first have been referred to the genus *Fringilla*, and the fourth, according to Temminck, belongs to the genus *Pyrrhula* of Brisson.

† We add the following synonyms:—*Loxia cardinalis*, GMEL. *Syst.* I., p. 847. *Cardinal Grosbeak*, *Arct. Zool.* No. 210. CATESB. *Car.* I., t. p. 38.

being, at that time, almost the only music of the season. Along the road sides and fences I found them hovering in half dozens together, associated with snow birds and various kinds of sparrows. In the Northern States they are migratory; but in the lower parts of Pennsylvania they reside during the whole year, frequenting the borders of creeks and rivulets, in sheltered hollows covered with holly, laurel, and other evergreens. They love also to reside in the vicinity of fields of Indian corn, a grain that constitutes their chief and favorite food. The seeds of apples, cherries, and of many other sorts of fruit, are also eaten by them; and they are accused of destroying bees.

In the months of March and April the males have many violent engagements for their favorite females. Early in May in Pennsylvania they begin to prepare their nest, which is very often fixed in a hollow, cedar or laurel bush. Outwardly it is constructed of small twigs, tops of dry weeds, and slips of vine bark, and lined with stalks of fine grass. The female lays four eggs thickly marked all over with touches of brownish olive, on a dull white ground, as represented in the figure; and they usually raise two broods in the season. These birds are rarely raised from the nest for singing, being so easily taken in trap cages, and soon domesticated. By long confinement, and perhaps unnatural food, they are found to fade in color, becoming of a pale whitish red. If well taken care of, however, they will live to a considerable age. There was in Mr. Peale's museum, the stuffed skin of one of these birds, which was there said to have lived in a cage upward of twenty-one years.

The opinion which so generally prevails in England, that the music of the groves and woods of America is far inferior to that of Europe, I, who have a thousand times listened to both, cannot admit to be correct. We cannot with fairness draw a comparison between the depth of the forest in America, and the cultivated fields of England; because it is a well known fact, that singing birds seldom frequent the former, in any country. But let the latter places be compared with the like situations in the United States, and the superiority of song, I am fully persuaded, would justly belong to the western continent. The few of our song birds that have visited Europe extort admiration from the best judges. "The notes of the Cardinal Grosbeak," says Latham, "are almost equal to those of the Nightingale." Yet these notes, clear, and excellent as they are, are far inferior to those of the Wood Thrush; and even to those of the Brown Thrush or Thrasher. Our inimitable Mocking-bird is also acknowledged, by themselves, to be fully equal to the song of the Nightingale "in its whole compass." Yet these are not one-tenth of the number of our singing birds. Could these people be transported to the borders of our woods and settlements, in the

month of May, about half an hour before sunrise, such a ravishing concert would greet their ear as they have no conception of.

The males of the Cardinal Grosbeak, when confined together in a cage, fight violently. On placing a looking-glass before the cage, the gesticulations of the tenant are truly laughable; yet with this he soon becomes so well acquainted, that, in a short time, he takes no notice whatever of it; a pretty good proof that he has discovered the true cause of the appearance to proceed from himself. They are hardy birds, easily kept, sing six or eight months in the year, and are most lively in wet weather. They are generally known by the names, Red-bird, Virginia Red-bird, Virginia Nightingale, and Crested Red-bird, to distinguish them from another beautiful species which is represented on the same plate.

I do not know that any successful attempts have been made to induce these birds to pair and breed in confinement; but I have no doubt of its practicability by proper management. Some months ago I placed a young unfledged Cow-bird (the *Fringilla pecoris* of Turton), whose mother, like the Cuckoo of Europe, abandons her eggs and progeny to the mercy and management of other smaller birds, in the same cage with a Red-bird, which fed and reared it with great tenderness. They both continue to inhabit the same cage, and I have hopes that the Red-bird will finish his pupil's education by teaching him his song.

I must here remark, for the information of foreigners, that the story told by Le Page du Pratz, in his History of Louisiana, and which has been so often repeated by other writers, that the Cardinal Grosbeak "collects together great hoards of maize and buckwheat, often as much as a bushel, which it artfully covers with leaves and small twigs, leaving only a small hole for entrance into the magazine," is entirely fabulous.

This species is eight inches long, and eleven in extent; the whole upper parts are a dull dusky red, except the sides of the neck and head, which, as well as the whole lower parts, are bright vermilion; chin, front and lores, black; the head is ornamented with a high, pointed crest, which it frequently erects in an almost perpendicular position; and can also flatten at pleasure, so as to be scarcely perceptible; the tail extends three inches beyond the wings, and is nearly even at the end; the bill is of a brilliant coralline color, very thick and powerful for breaking hard grain and seeds; the legs and feet a light clay color (not blood red as Buffon describes them); iris of the eye dark hazel. The female is less than the male, has the upper parts of a brownish olive or drab color, the tail, wings and tip of the crest excepted, which are nearly as red as those of the male; the lores, front and chin, are light ash; breast and lower parts a reddish drab; bill, legs and eyes, as those of the male; the crest is shorter and less frequently raised.

One peculiarity in the female of this species is, that she often sings

nearly as well as the male. I do not know whether it be owing to some little jealousy on this score or not, that the male, when both occupy the same cage, very often destroys the female.

SPECIES II. *LOXIA LUDOVICIANA*.

ROSE-BREASTED GROSBEEK.

[Plate XVII. Fig. 2, Male.]

Loxia Ludoviciana, GMEL. *Syst.* I., p. 861.—*Red-breasted Grosbeak*, *Arct. Zool.* p. 350, No. 212.—*Red-breasted Finch*, *Id.* 372, No. 245.—*Le Rose gorge*, BUFF. III., 460.—*Gros-bec de la Louisiane*, *Pl. Enl.* 153, fig. 2.—LATH. *Syn.* II., 126.

THIS elegant species is rarely found in the lower parts of Pennsylvania; in the state of New York, and those of New England, it is more frequently observed; particularly in fall when the berries of the sour gum are ripe, on the kernels of which it eagerly feeds. Some of its trivial names would import that it is also an inhabitant of Louisiana; but I have not heard of its being seen in any of the Southern States. A gentleman of Middleton, Connecticut, informed me, that he kept one of these birds for some considerable time in a cage, and observed that it frequently sung at night, and all night; that its notes were extremely clear and mellow, and the sweetest of any bird with which he is acquainted.

The bird from which the figure on the plate was taken, was shot, late in April, on the borders of a swamp, a few miles from Philadelphia. Another male of the same species was killed at the same time, considerably different in its markings; a proof that they do not acquire their full colors until at least the second spring or summer.

The Rose-breasted Grosbeak is eight inches and a half long, and thirteen inches in extent; the whole upper parts are black except the second row of wing coverts, which are broadly tipped with white; a spot of the same extends over the primaries, immediately below their coverts; chin, neck and upper part of the breast black; lower part of the breast, middle of the belly, and lining of the wings, a fine light carmine or rose-color; tail forked, black, the three exterior feathers, on each side, white on their inner vanes for an inch or more from the tips; bill, like those of its tribe, very thick and strong, and pure white; legs and feet light blue; eyes hazel. The young male of the first spring has the plumage of the back variegated with light brown, white and black; a line of white extends over the eye; the rose color also reaches to the base of the bill where it is speckled with black and white. The female

is of a light yellowish flaxen color, streaked with dark olive and whitish; the breast is streaked with olive, pale flaxen, and white; the lining of the wings is pale yellow; the bill more dusky than in the male, and the white on the wing less.

SPECIES III. *LOXIA CÆRULEA*.

BLUE GROSBEAK.

[Plate XXIV. Fig. 6.]

LINN. *Syst.* 304.—LATHAM, *Syn.* III., p. 116.—*Arct. Zool.* p. 351, No. 217.—CATESBY, *Car. I.*, 39.—BUFFON, III., 454. *Pl. Enl.* 154.

THIS solitary and retired species inhabits the warmer parts of America, from Guiana, and probably farther south,* to Virginia. Mr. Bartram also saw it during a summer's residence near Lancaster, Pennsylvania. In the United States, however, it is a scarce species; and having but few notes, is more rarely observed. Their most common note is a loud *chuck*; they have also at times a few low sweet toned notes. They are sometimes kept in cages in Carolina; but seldom sing in confinement. The individual represented in the plate was a very elegant specimen, in excellent order, though just arrived from Charleston, South Carolina. During its stay with me, I fed it on Indian corn, which it seemed to prefer, easily breaking with its powerful bill the hardest grains. They also feed on hemp seed, millet, and the kernels of several kinds of berries. They are timid birds, watchful, silent and active, and generally neat in their plumage. Having never yet met with their nest, I am unable at present to describe it.

The Blue Grosbeak is six inches long, and ten inches in extent; lores and frontlet black; whole upper parts a rich purplish blue, more dull on the back, where it is streaked with dusky; greater wing coverts black, edged at the tip with bay; next superior row wholly chestnut; rest of the wing black, skirted with blue; tail forked, black, slightly edged with bluish, and sometimes minutely tipped with white; legs and feet lead color; bill a dusky bluish horn color; eye large, full and black.

The female is of a dark drab color, tinged with blue, and considerably lightest below. I suspect the males are subject to a change of color during winter. The young, as usual with many other species, do not

* Latham, II., p. 116.

receive the blue color until the ensuing spring; and till then very much resemble the female.

Latham makes two varieties of this species; the first wholly blue, except a black spot between the bill and eye; this bird inhabits Brazil, and is figured by Brisson, Orn. III., 321, No. 6, pl. 17, fig. 2. The other is also generally of a fine deep blue, except the quills, tail and legs, which are black; this is Edwards' "Blue Grosbeak from Angola," pl. 125; which Dr. Latham suspects to have been brought from some of the Brazilian settlements, and considers both as mere varieties of the first. I am sorry I cannot at present clear up this matter, but shall take some farther notice of it hereafter.

SPECIES IV. *LOXIA ENUCLEATOR*.

PINE GROSBEAK.

[Plate V. Fig. 2.]

Loxia Eucleator, LINN. *Syst.* I., p. 299, 3.—*Le Dur-bec, ou Gros-bec de Canada*, BUFFON, III., p. 457. *Pl. Enl.* 135, 1.—EDW. 123, 124.—LATH. *Syn.* III., p. 111, 5.

THIS is perhaps one of the gayest plumaged land birds that frequent the inhospitable regions of the north, whence they are driven, as if with reluctance, by the rigors of winter, to visit Canada, and some of the Northern and Middle States; returning to Hudson's Bay so early as April. The specimen from which our drawing was taken, was shot on a cedar tree, a few miles to the north of Philadelphia, in the month of December; and a faithful resemblance of the original, as it then appeared, is exhibited in the plate. A few days afterwards, another bird of the same species was killed not far from Gray's Ferry, four miles south of Philadelphia, which proved to be a female. In this part of the state of Pennsylvania, they are rare birds, and seldom seen. As they do not, to my knowledge, breed in any part of this state, I am unable, from personal observation, to speak of their manners or musical talents. Pennant says, they sing on their first arrival in the country round Hudson's Bay, but soon become silent; make their nest on trees, at a small height from the ground, with sticks, and line it with feathers. The female lays four white eggs, which are hatched in June. Foster observes, that they visit Hudson's Bay only in May, on their way to the north; and are not observed to return in the autumn; and that their food consists of birch-willow buds, and others of the same nature.*

* Phil. Trans. LXII., p. 402.

The Pine Grosbeak measures nine inches in length, and fourteen inches in extent; the head, neck, breast and rump is of a rich crimson, palest on the breast; the feathers on the middle of the back are centered with arrow-shaped spots of black, and skirted with crimson, which gives the plumage a considerable flush of red there; those on the shoulders are of a deep slate color, partially skirted with red and light ash. The greater wing-coverts and next superior row are broadly tipped with white, and slightly tinged with reddish; wings and tail black, edged with light brown; tail considerably forked; lower part of the belly ash color; vent feathers skirted with white, and streaked with black; legs glossy black; bill a brownish horn color, very thick, short and hooked at the point; the upper mandible overhanging the lower considerably, approaching in its form to that of the Parrot; base of the bill covered with recumbent hairs of a dark brown color. The whole plumage, near the roots, as in most other birds, is of a deep bluish ash color. The female was half an inch shorter, and answered nearly to the above description; only, those parts that in the male were crimson, were in her of a dirty yellowish color. The female, according to Foster, referred to above, has those parts which in the male are red, more of an orange tint; and he censures Edwards for having represented the female of too bright a red. It is possible, that my specimen of the female might have been a bird of the first season, not come to its full colors. Those figured by Mr. Edwards* were both brought from Hudson's Bay, and appear to be the same with the one now before us, though his coloring of the female differs materially from his description.

If this, as Mr. Pennant asserts, be the same species with that of the eastern continent, it would seem to inhabit almost the whole extent of the arctic regions. It is found in the north of Scotland, where Pennant suspects it breeds. It inhabits Europe as far north as Dronthiem; is common in all the pine forests of Asia, in Siberia, and the north of Russia, is taken in autumn about Petersburg, and brought to market in great numbers. It returns to Lapland in spring; is found in Newfoundland; and on the western coast of North America.†

Were I to reason from analogy, I would say, that from the great resemblance of this bird to the Purple-finch (*Eringilla purpurea*), it does not attain its full plumage until the second summer; and is subject to considerable change of color in moulting, which may have occasioned all the differences we find concerning it in different authors. But this is actually ascertained to be the case; for Mr. Edwards saw two of these birds alive in London, in cages; the person in whose custody they were, said they came from Norway; that they had moulted their feathers,

* Edw. Vol. III., p. 124.

† Pennant.

and were not afterwards so beautiful as they were at first. One of them, he says, was colored very much like the Green-finch (*Loxia Chloris*). The Purple-finch, though much smaller, has the rump, head, back and breast nearly of the same color as the Pine Grosbeak, feeds in the same manner, on the same food, and is also subject to like changes of color.

Since writing the above I have kept one of these Pine Grosbeaks, a male, for more than half a year. In the month of August those parts of the plumage which were red became of a greenish yellow, and continue so still. In May and June its song, though not so loud as some birds of its size, was extremely clear, mellow and sweet. It would warble out this for a whole morning together, and acquired several of the notes of a Red-bird (*L. cardinalis*), that hung near it. It is exceedingly tame and familiar, and when it wants food or water utters a continual melancholy and anxious note. It was caught in winter near the North river, thirty or forty miles above New York.

GENUS XXXV. CURVIROSTRA. CROSSBILL.

SPECIES I. *C. AMERICANA*.*

AMERICAN CROSSBILL.

[Plate XXXI. Fig. 1, Male.—Fig. 2, Female.†]

ON first glancing at the bill of this extraordinary bird one is apt to pronounce it deformed and monstrous; but on attentively observing the use to which it is applied by the owner, and the dexterity with which he detaches the seeds of the pine tree from the cone, and from the husks that enclose them, we are obliged to confess on this as on many other occasions where we have judged too hastily of the operations of nature, that no other conformation could have been so excellently adapted to the purpose; and that its deviation from the common form, instead of being a defect or monstrosity, as the celebrated French naturalist insinuates, is a striking proof of the wisdom and kind superintending care of the great Creator.

This species is a regular inhabitant of almost all our pine forests situated north of 40°, from the beginning of September to the middle of April. It is not improbable that some of them remain during sum-

* This is not a new species, as supposed by Wilson, but the *Loxia curvirostra*, LINN. Ed. 10, p. 171.

† This is an adult male; fig. 1 is a young bird.

mer within the territory of the United States to breed. Their numbers must, however, be comparatively few, as I have never yet met with any of them in summer; though I lately took a journey to the Great Pine Swamp beyond Pocano Mountain, in Northampton county, Pennsylvania, in the month of May, expressly for that purpose; and ransacked for six or seven days the gloomy recesses of that extensive and desolate morass, without being able to discover a single Crossbill. In fall, however, as well as in winter and spring, this tract appears to be their favorite rendezvous; particularly about the head waters of the Lehigh, the banks of the Tobyhanna, Tunkhannock, and Bear creek, where I have myself killed them at these seasons. They then appear in large flocks, feeding on the seeds of the hemlock and white pine, have a loud, sharp, and not unmusical note; chatter as they fly; alight during the prevalence of deep snows before the door of the hunter, and around the house, picking off the clay with which the logs are plastered, and searching in corners where urine or any substance of a saline quality had been thrown. At such times they are so tame as only to settle on the roof of the cabin when disturbed, and a moment after descend to feed as before. They are then easily caught in traps; and will frequently permit one to approach so near as to knock them down with a stick. Those killed and opened at such times, are generally found to have the stomach filled with a soft greasy kind of earth or clay. When kept in a cage they have many of the habits of the Parrot; often climbing along the wires; and using their feet to grasp the cones in, while taking out the seeds.

This same species is found in Nova Scotia, and as far north as Hudson's Bay, arriving at Severn river about the latter end of May; and, according to accounts, proceeding farther north to breed. It is added, that "they return at the first setting in of frost."*

Hitherto this bird has, as usual, been considered a mere *variety* of the European species; though differing from it in several respects; and being nearly one-third less; and although the singular conformation of the bill of these birds and their peculiarity of manners are strikingly different from those of the Grosbeaks, yet many, disregarding these plain and obvious discriminations, still continue to consider them as belonging to the genus *Loxia*; as if the particular structure of the bill should, in all cases *but this*, be the criterion by which to judge of a species; or perhaps conceiving themselves the wiser of the two, they have thought proper to associate together what *Nature* has, in the most pointed manner, placed apart.

In separating these birds, therefore, from the Grosbeaks, and classing them as a family by themselves, substituting the specific for the generic

* Pennant.

appellation, I have only followed the steps and dictates of that great Original, whose arrangements ought never to be disregarded by any who would faithfully follow her.

The Crossbills are subject to considerable changes of color; the young males of the present species being, during the first season, olive yellow mixed with ash; then bright greenish yellow intermixed with spots of dusky olive; all of which yellow plumage becomes, in the second year, of a light red, having the edges of the tail inclining to yellow. When confined in a cage they usually lose the red color at the first moulting, that tint changing to a brownish yellow, which remains permanent. The same circumstance happens to the Purple Finch and Pine Grosbeak, both of which, when in confinement, exchange their brilliant crimson for a motley garb of light brownish yellow; as I have had frequent opportunities of observing.

The male of this species, when in perfect plumage, is five inches and three quarters long, and nine inches in extent; the bill is a brown horn color, sharp, and single edged towards the extremity, where the mandibles cross each other; the general color of the plumage is a red-lead color, brightest on the rump, generally intermixed on the other parts with touches of olive; wings and tail brown black, the latter forked, and edged with yellow; legs and feet brown; claws large, much curved, and very sharp; vent white, streaked with dark ash; base of the bill covered with recumbent down, of a pale brown color; eye hazel.

The female is rather less than the male; the bill of a paler horn color; rump, tail coverts and edges of the tail golden yellow; wings and tail dull brownish black; the rest of the plumage olive yellow mixed with ash; legs and feet as in the male. The young males during the first season, as is usual with most other birds, very much resemble the female. In moulting, the males exchange their red for brownish yellow, which gradually brightens into red. Hence at different seasons they differ greatly in color.

SPECIES II. *CURVIROSTRA LEUCOPTERA*.

WHITE-WINGED CROSSBILL.

[Plate XXXI. Fig. 3.]

TURTON, *Syst. I.*, p. 515.*

THIS is a much rarer species than the preceding; though found frequenting the same places, and at the same seasons; differing, however, from the former in the deep black wings and tail, the large bed of white on the wing, the dark crimson of the plumage, and a less and more slender conformation of body. The bird represented in the plate was shot in the neighborhood of the Great Pine Swamp, in the month of September, by my friend Mr. Ainsley, a German naturalist, collector in this country for the Emperor of Austria. The individual of this species mentioned by Turton and Latham, had evidently been shot in moulting time. The present specimen was a male in full and perfect plumage.†

The White-winged Crossbill is five inches and a quarter long, and eight inches and a quarter in extent; wings and tail deep black, the former crossed with two broad bars of white; general color of the plumage dark crimson, partially spotted with dusky; lores and frontlet pale brown; vent white, streaked with black; bill a brown horn color, the mandibles crossing each other as in the preceding species, the lower sometimes bending to the right, sometimes to the left, usually to the left in the male, and to the right in the female of the *American Crossbill*. The female of the present species will be introduced as soon as a good specimen can be obtained, with such additional facts relative to their manners as may then be ascertained.

* We add the following synonyms:—*Loxia leucoptera*, GMEL. *Syst. I.*, p. 844.—*Loxia falcirostra*, LATH. *Ind. Orn. I.*, p. 371.—*White-winged Crossbill*, LATH. *Syn. III.*, p. 108, 2. *Id. Sup.* p. 148. *Arct. Zool. II.*, No. 208.

† This is a mistake; it was a young male.

GENUS XXXVI. EMBERIZA. BUNTING.

SPECIES I. *E. AMERICANA*.

BLACK-THROATED BUNTING.

[Plate III. Fig. 2.]

Calandra pratensis, the *May Bird*, BARTRAM, p. 291.—*Arct. Zool.* 228.—*Emberiza Americana*, *Ind. Orn.* p. 411, 42.*

OF this bird I have but little to say. They arrive in Pennsylvania, from the south, about the middle of May; abound in the neighborhood of Philadelphia; and seem to prefer level fields, covered with rye-grass, timothy, or clover, where they build their nest, fixing it in the ground, and forming it of fine dried grass. The female lays five white eggs, sprinkled with specks and lines of black. Like most part of their genus, they are nowise celebrated for musical powers. Their whole song consists of five notes, or, more properly, of two notes; the first repeated twice and slowly, the second thrice, and rapidly, resembling *chip, chip, che che che*. Of this ditty, such as it is, they are by no means parsimonious, for, from their first arrival, for the space of two or three months, every level field of grain or grass is perpetually serenaded with *chip, chip, che che che*. In their shape and manners they very much resemble the Yellow-Hammer of Britain (*E. citrinella*); like them they are fond of mounting to the top of some half-grown tree, and there chirruping for half an hour at a time. In travelling through different parts of New York and Pennsylvania, in spring and summer, wherever I came to level fields of deep grass, I have constantly heard these birds around me. In August they become mute, and soon after, that is, towards the beginning of September, leave us altogether.

The Black-throated Bunting is six inches and a half in length; the upper part of the head is of a dusky greenish yellow; neck dark ash; breast, inside shoulders of the wing, line over the eye and at the lower angle of the bill yellow; chin, and space between the bill and eye white; throat covered with a broad, oblong, somewhat heart-shaped patch of black, bordered on each side with white; back, rump and tail ferruginous, the first streaked with black; wings deep dusky, edged with a light clay color; lesser coverts and whole shoulder of the wing

* We add the following synonymes:—*Emberiza Americana*, GMEL. *Syst.* 1, p. 872.—LATH. *Syn.* 2, p. 197, pl. 44. *Fringilla flaricollis*, GMEL. *Syst.* 1., 926.

bright bay; belly and vent dull white; bill light blue, dusky above, strong and powerful for breaking seeds; legs and feet brown; iris of the eye hazel. The female differs from the male in having little or no black on the breast, nor streak of yellow over the eye; beneath the eye she has a dusky streak, running in the direction of the jaw. In all those I opened the stomach was filled with various seeds, gravel, eggs of insects, and sometimes a slimy kind of earth or clay.

This bird has been figured by Latham, Pennant, and several others. The former speaks of a bird which he thinks is either the same, or nearly resembling it, that resides in summer in the country about Hudson's Bay, and is often seen associating in flights with the geese;* this habit, however, makes me suspect that it must be a different species; for while with us here the Black-throated Bunting is never gregarious; but is almost always seen singly, or in pairs, or, at most, the individuals of one family together.

SPECIES II. *EMBERIZA ERYTHROPHTHALMA*.

TOWHE BUNTING.

[Plate X. Fig. 5, Male.]

Fringilla erythrophthalma, LINN. *Syst.* p. 318, 6.—*Le Pinçon de la Caroline*, BRISS. *Orn.* III., p. 169, 44.—BUFF. *Ois.* IV., p. 141.—LATH. II., p. 199, No. 43.—CATESB. *Car.* I., Pl. 34.

THIS is a very common, but humble and inoffensive species, frequenting close sheltered thickets, where it spends most of its time in scratching up the leaves for worms, and for the larvæ and eggs of insects. It is far from being shy, frequently suffering a person to walk round the bush or thicket where it is at work, without betraying any marks of alarm; and when disturbed, uttering the notes *Towhê*, repeatedly. At times the male mounts to the top of a small tree, and chants his few simple notes for an hour at a time. These are loud, not unmusical, something resembling those of the Yellow-hammer of Britain, but more mellow, and more varied. He is fond of thickets with a southern exposure, near streams of water, and where there is plenty of dry leaves, and is found, generally, over the whole United States. He is not gregarious, and you seldom see more than two together. About the middle or twentieth of April they arrive in Pennsylvania, and begin building about the first week in May. The nest is fixed on the ground

* LATH. *Syn. Suppl.* p. 158.

among the dry leaves, near, and sometimes under, a thicket of briars, and is large and substantial. The outside is formed of leaves and pieces of grape-vine bark, and the inside of fine stalks of dry grass, the cavity completely sunk beneath the surface of the ground, and *sometimes* half covered above with dry grass or hay. The eggs are usually five, of a pale flesh color, thickly marked with specks of rufous, most numerous near the great end (see fig. 6). The young are produced about the beginning of June; and a second brood commonly succeeds in the same season. This bird rarely winters north of the state of Maryland; retiring from Pennsylvania to the south about the twelfth of October. Yet in the middle districts of Virginia, and thence south to Florida, I found it abundant during the months of January, February and March. Its usual food is obtained by scratching up the leaves; it also feeds, like the rest of its tribe, on various hard seeds and gravel; but rarely commits any depredations on the harvest of the husbandman; generally preferring the woods, and traversing the bottom of fences sheltered with briars. He is generally very plump and fat; and when confined in a cage soon becomes familiar. In Virginia he is called the Bulfinch; in many places the Towhe-bird; in Pennsylvania the Chewink, and by others the Swamp Robin. He contributes a little to the harmony of our woods in spring and summer; and is remarkable for the cunning with which he conceals his nest. He shows great affection for his young; and the deepest marks of distress on the appearance of their mortal enemy the black-snake.

The specific name which Linnæus has bestowed on this bird is deduced from the color of the iris of its eye, which, in those that visit Pennsylvania, is dark red. But I am suspicious that this color is not permanent, but subject to a periodical change. I examined a great number of these birds in the month of March, in Georgia, every one of which had the iris of the eye *white*. Mr. Abbot of Savannah assured me, that at this season, every one of these birds he shot had the iris white, while at other times it was red; and Mr. Elliot, of Beaufort, a judicious naturalist, informed me, that in the month of February he killed a Towhe Bunting with one eye red and the other white! It should be observed that the iris of the young bird's eye is of a chocolate color, during its residence in Pennsylvania; perhaps this may brighten into a white during winter, and these may have been all birds of the preceding year, which had not yet received the full color of the eye.

The Towhe Bunting is eight inches and a half long, and eleven broad; above black, which also descends rounding on the breast, the sides of which are bright bay, spreading along under the wings; the belly is white, the vent pale rufous; a spot of white marks the wing just below the coverts, and another a little below that extends obliquely across the primaries; the tail is long, nearly even at the end; the three exterior

feathers white for an inch or so from the tips, the outer one wholly white, the middle ones black; the bill is black; the legs and feet a dirty flesh color, and strong for scratching up the ground. The female differs in being of a light reddish brown in those parts where the male is black; and in having the bill more of a light horn color.

EMBERIZA ERYTHROPHIALMA.

TOWHE BUNTING.

[Plate LIII. Fig. 5, Female.]

TURT. *Syst.* p. 534.

THIS bird differs considerably from the male in color; and has, if I mistake not, been described as a distinct species by European naturalists, under the appellation of the "*Rusty Bunting*." The males of this species, arrive several days sooner than the females. In one afternoon's walk through the woods, on the twenty-third of April, I counted more than fifty of the former, and did not observe any of the latter, though I made a very close search for them. This species frequents, in great numbers, the barrens covered with shrub oaks; and inhabits even to the tops of our mountains. They are almost perpetually scratching among the fallen leaves, and feed chiefly on worms, beetles and gravel. They fly low, flirting out their broad white-streaked tail, and uttering their common note *Towhè*. They build always on the ground, and raise two broods in the season. For a particular account of the manners of this species, see our history of the male.

The female Towhe is eight inches long, and ten inches in extent; iris of the eye a deep blood color; bill black; plumage above, and on the breast, a dark reddish drab, reddest on the head and breast; sides under the wings light chestnut; belly white; vent yellow ochre; exterior vanes of the tertials white; a small spot of white marks the primaries immediately below their coverts, and another slighter streak crosses them in a slanting direction; the three exterior tail feathers are tipped with white; the legs and feet flesh-colored.

This species seems to have a peculiar dislike to the sea coast, as in the most favorable situations, in other respects, within several miles of the sea, it is scarcely ever to be met with. Scarcity of its particular kinds of a favorite food in such places may probably be the reason; as it is well known that many kinds of insects, on the larvæ of which it usually feeds, carefully avoid the neighborhood of the sea.

SPECIES III. *EMBERIZA ORYZIVORA*.

RICE BUNTING.

[Plate XII. Figs. 1 and 2.]

Emberiza oryzivora, LINN. *Syst.* p. 311, 16.—*Le Ortolan de la Caroline*, BRISS. *Orn.* III., p. 282, 8, pl. 15, fig. 3. *Pl. Enl.* 388, fig. 1.—*L'Agripenne, ou L'Ortolan de Riz*, BUFF. *Ois.* IV., p. 337.—*Rice-bird*, CATESB. *Car.* I., pl. 14.—EDW. pl. 2.—LATHAM II., p. 188, No. 25.

THIS is the *Bobolink* of the Eastern and Northern States, and the *Rice* and *Reed-bird* of Pennsylvania and the Southern States. Though small in size, he is not so in consequence; his coming is hailed by the sportsman with pleasure; while the careful planter looks upon him as a devouring scourge, and worse than a plague of locusts. Three good qualities, however, entitle him to our notice, particularly as these three are rarely found in the same individual;—his plumage is beautiful, his song highly musical, and his flesh excellent. I might also add, that the immense range of his migrations, and the havoc he commits, are not the least interesting parts of his history.

The winter residence of this species I suppose to be from Mexico to the mouth of the Amazon, from whence in hosts innumerable he regularly issues every spring, perhaps to both hemispheres, extending his migrations northerly as far as the banks of the Illinois and the shores of the St. Lawrence. Could the fact be ascertained, which has been asserted by some writers, that the emigration of these birds was altogether unknown in this part of the continent, previous to the introduction of rice plantations, it would certainly be interesting. Yet, why should these migrations reach at least a thousand miles beyond those places where rice is now planted; and this not in occasional excursions, but regularly to breed, and rear their young, where rice never was, and probably never will be cultivated? Their so recent arrival on this part of the continent I believe to be altogether imaginary, because, though there were not a single grain of rice cultivated within the United States, the country produces an exuberance of food of which they are no less fond. Insects of various kinds, grubs, May-flies and caterpillars, the young ears of Indian corn, and the seeds of the wild oats, or, as it is called in Pennsylvania, reeds (the *Zizania aquatica* of Linnæus), which grows in prodigious abundance along the marshy shores of our large rivers, fur-

nish, not only them, but millions of Rail, with a delicious subsistence for several weeks. I do not doubt, however, that the introduction of rice, but more particularly the progress of agriculture in this part of America, has greatly increased their numbers, by multiplying their sources of subsistence fifty fold within the same extent of country.

In the month of April, or very early in May, the Rice Bunting, male and female, in the dresses in which they are figured on the plate, arrive within the southern boundaries of the United States; and are seen around the town of Savannah, in Georgia, about the fourth of May, sometimes in separate parties of males and females; but more generally promiscuously. They remain there but a short time; and about the twelfth of May make their appearance in the lower parts of Pennsylvania, as they did at Savannah. While here the males are extremely gay and full of song; frequenting meadows, newly ploughed fields, sides of creeks, rivers, and watery places, feeding on May-flies and caterpillars, of which they destroy great quantities. In their passage, however, through Virginia at this season, they do great damage to the early wheat and barley, while in its milky state. About the twentieth of May they disappear on their way to the north. Nearly at the same time they arrive in the state of New York, spread over the whole New England States as far as the river St. Lawrence from Lake Ontario to the sea; in all of which places north of Pennsylvania they remain during the summer, building, and rearing their young. The nest is fixed on the ground, generally in a field of grass; the outside is composed of dry leaves and coarse grass, the inside is lined with fine stalks of the same, laid in considerable quantity. The female lays five eggs, of a bluish white, marked with numerous irregular spots of blackish brown. The song of the male, while the female is sitting, is singular, and very agreeable. Mounting and hovering on wing, at a small height above the field, he chants out such a jingling medley of short variable notes, uttered with such seeming confusion and rapidity, and continued for a considerable time, that it appears as if half a dozen birds of different kinds were all singing together. Some idea may be formed of this song by striking the high keys of a piano-forte at random, singly, and quickly, making as many sudden contrasts of high and low notes as possible. Many of the tones are, in themselves, charming; but they succeed each other so rapidly that the ear can hardly separate them. Nevertheless the general effect is good; and when ten or twelve are all singing on the same tree, the concert is singularly pleasing. I kept one of these birds for a long time, to observe its change of color. During the whole of April, May, and June, it sang almost continually. In the month of June the color of the male begins to change, gradually assimilating to that of the female, and before the beginning of August it is difficult to distinguish the one from the other, both being then in the dress of

fig. 2. At this time, also, the young birds are so much like the female, or rather like both parents, and the males so different in appearance from what they were in spring, that thousands of people in Pennsylvania, to this day, persist in believing them to be a different species altogether. While others allow them indeed to be the same, but confidently assert that they are all females—none but females, according to them, returning in the fall; what becomes of the males they are totally at a loss to conceive. Even Mr. Mark Catesby, who resided for years, in the country they inhabit, and who, as he himself informs us, examined by dissection great numbers of them in the fall, and repeated his experiment the succeeding year, lest he should have been mistaken, declares that he uniformly found them to be females. These assertions must appear odd to the inhabitants of the Eastern States, to whom the change of plumage in these birds is familiar, as it passes immediately under their eye; and also to those, who like myself, have kept them in cages, and witnessed their gradual change of color. That accurate observer, Mr. William Bartram, appears, from the following extract, to have taken notice of, or at least suspected this change of color in these birds more than forty years ago. "Being in Charleston," says he, "in the month of June, I observed a cage full of Rice-birds, that is of the yellow or female color, who were very merry and vociferous, having the same variable music with the pied or male bird, which I thought extraordinary, and observing it to the gentleman, he assured me that they were all of the male kind, taken the preceding spring; but had changed their color, and would be next spring of the color of the pied, thus changing color with the seasons of the year. If this is really the case, it appears they are both of the same species intermixed, spring and fall." Without, however, implicating the veracity of Catesby, who, I have no doubt, believed as he wrote, a few words will easily explain why he was deceived. The internal organization of undomesticated birds of all kinds, undergoes a remarkable change, every spring and summer; and those who wish to ascertain this point by dissection will do well to remember, that in this bird those parts that characterize the male are, in autumn, no larger than the smallest pin's head, and in young birds of the first year can scarcely be discovered; though in spring their magnitude in each is at least one hundred times greater. To an unacquaintance with this extraordinary circumstance I am persuaded has been owing the mistake of Mr. Catesby that the females only return in the fall; for the same opinion I long entertained myself, till a more particular examination showed me the source of my mistake. Since that, I have opened and examined many hundreds of these birds, in the months of September and October, and, on the whole, have found about as many males as females among them. The latter may be distinguished from the former

by being of a rather more shining yellow on the breast and belly; it is the same with the young birds of the first season.

During the breeding season they are dispersed over the country; but as soon as the young are able to fly, they collect together in great multitudes, and pour down on the oat fields of New England like a torrent, depriving the proprietors of a good tithe of their harvest; but in return often supply his table with a very delicious dish. From all parts of the north and western regions they direct their course towards the south; and about the middle of August revisit Pennsylvania on their route to winter quarters. For several days they seem to confine themselves to the fields and uplands; but as soon as the seeds of the reed are ripe they resort to the shores of the Delaware and Schuylkill in multitudes; and these places, during the remainder of their stay, appear to be their grand rendezvous. The reeds, or wild oats, furnish them with such abundance of nutritious food, that in a short time they become extremely fat; and are supposed by some of our epicures, to be equal to the famous Ortolans of Europe. Their note at this season is a single *chink*, and is heard over head, with little intermission, from morning to night. These are halcyon days for our gunners of all descriptions, and many a lame and rusty gun barrel is put in requisition for the sport. The report of musketry along the reedy shores of the Schuylkill and Delaware is almost incessant, resembling a running fire. The markets of Philadelphia, at this season, exhibit proofs of the prodigious havoc made among these birds; for almost every stall is ornamented with strings of Reed-birds. This sport, however, is considered inferior to that of *Rail-shooting*, which is carried on at the same season and places with equal slaughter. Of this, as well as of the Rail itself, we shall give a particular account in its proper place.

Whatever apology the people of the Eastern and Southern States may have for the devastation they spread among the Rice and Reed-Birds, the Pennsylvanians, at least those living in this part of it, have little to plead in justification, but the pleasure of destruction, or the savory dish they furnish their tables with; for the oat harvest is generally secured before the great body of these birds arrive, the Indian corn too ripe and hard, and the reeds seem to engross all their attention. But in the states south of Maryland, the harvest of early wheat and barley in spring, and the numerous plantations of rice in fall, suffer severely. Early in October, or as soon as the nights begin to set in cold, they disappear from Pennsylvania, directing their course to the south. At this time they swarm among the rice fields; and appear in the island of Cuba in immense numbers, in search of the same delicious grain. About the middle of October they visit the island of Jamaica in equal numbers, where they are called *Butter-birds*. They feed on

the seed of the Guinea grass, and are also in high esteem there for the table.*

Thus it appears, that the regions north of the fortieth degree of latitude are the breeding places of these birds; that their migrations north-erly are performed from March to May, and their return southerly from August to November; their precise winter quarters, or farthest retreat southerly, is not exactly known.

The Rice Bunting is seven inches and a half long, and eleven and a half in extent; his spring dress is as follows; upper part of the head, wings, tail and sides of the neck, and whole lower parts black; the feathers frequently skirted with brownish yellow as he passes into the colors of the female; back of the head a cream color; back black, seamed with brownish yellow; scapulars pure white, rump and tail coverts the same; lower part of the back bluish white; tail formed like those of the Woodpecker genus, and often used in the same manner, being thrown in to support it while ascending the stalks of the reed; this habit of throwing in the tail it retains even in the cage; legs a brownish flesh color; hind heel very long; bill a bluish horn color; eye hazel; see fig. 1. In the month of June this plumage gradually changes to a brownish yellow, like that of the female, fig. 2, which has the back streaked with brownish black; whole lower parts dull yellow; bill reddish flesh color; legs and eyes as in the male. The young birds retain the dress of the female until the early part of the succeeding spring; the plumage of the female undergoes no material change of color.

* Rennel's Hist. Jam.

SPECIES IV. *EMBERIZA PECORIS*.

COW BUNTING.*

[Plate XVIII. Figs. 1, 2, and 3.]

Le Brunet, BUFF. IV., 138.—*Le Pinçon de Virginie*, BRISS. III., 165.—*Cowpen-bird*, CATESB. I., 34.—LATH. II., 269.—*Arct. Zool.* II., p. 371, No. 241.—*Sturnus stercorearius*, BARTRAM, p. 291.†

THERE is one striking peculiarity in the works of the great Creator, which becomes more amazing the more we reflect on it; namely, that he has formed no species of animals so minute, or obscure, that are not invested with certain powers and peculiarities, both of outward conformation and internal faculties, exactly suited to their pursuits, sufficient to distinguish them from all others; and forming for them a character solely and exclusively their own. This is particularly so among the feathered race. If there be any case where these characteristic features are not evident, it is owing to our want of observation; to our little intercourse with that particular tribe; or to that contempt for inferior animals and all their habitudes which is but too general, and which bespeaks a morose, unfeeling and unreflecting mind. These peculiarities are often surprising, always instructive where understood, and (as in the subject of our present chapter) at least amusing, and worthy of being farther investigated.

The most remarkable trait in the character of this species is the unaccountable practice it has of dropping its eggs into the nests of other birds, instead of building and hatching for itself; and thus entirely abandoning its progeny to the care and mercy of strangers. More than two thousand years ago it was well known, in those countries where the bird inhabits, that the Cuckoo of Europe (*Cuculus canorus*) never built

* The American Cuckoo (*Cuculus Carolinensis*) is by many people called the Cow-bird, from the sound of its notes resembling the words *cow, cow*. This bird builds its own nest very artlessly in a cedar or an apple tree, and lays four greenish blue eggs, which it hatches, and rears its young with great tenderness.

† Prince Musignano quotes the following Synonymes:—*Fringilla pecoris*, GMEL. LATH. female and young.—*Oriolus fuscus*, GMEL. adult male.—*Oriolus minor*, GMEL. species, No. 46, LATH. adult male.—*Sturnus obscurus*, GMEL. adult male.—*Sturnus junceti*, LATH. adult male.—*Troupiale de la Caroline*, BUFF. Pl. Enl. 606, fig. 1, adult male. This figure is, no doubt, intended for this bird, although the bill is incorrect.—BRISSON calls it *Fringilla Virginiana*; VIEILLOT, *Passerina pecoris*.

herself a nest, but dropped her eggs in the nests of other birds; but among the thousands of different species that spread over that and other parts of the globe, no other instance of the same uniform habit has been found to exist, until discovered in the bird now before us. Of the reality of the former there is no doubt; it is known to every schoolboy in Britain; of the truth of the latter I can myself speak with confidence, from personal observation, and from the testimony of gentlemen, unknown to each other, residing in different and distant parts of the United States. The circumstances by which I became first acquainted with this peculiar habit of the bird are as follows.

I had, in numerous instances, found in the nests of three or four particular species of birds, one egg, much larger and differently marked from those beside it; I had remarked that these odd-looking eggs were all of the same color, and marked nearly in the same manner, in whatever nest they lay; though frequently the eggs beside them were of a quite different tint; and I had also been told, in a vague way, that the Cow-bird laid in other birds' nests. At length I detected the female of this very bird in the nest of the Red-eyed Flycatcher, which nest is very small, and very singularly constructed; suspecting her purpose, I cautiously withdrew without disturbing her; and had the satisfaction to find, on my return, that the egg which she had just dropped corresponded as nearly as eggs of the same species usually do, in its size, tint and markings to those formerly taken notice of. Since that time I have found the young Cow Bunting, in many instances, in the nests of one or other of these small birds; I have seen these last followed by the young Cow-bird calling out clamorously for food, and often engaged in feeding it; and I have now, in a cage before me, a very fine one which six months ago I took from the nest of the Maryland Yellow-throat, and from which the figures of the young bird, and male Cow-bird in the plate were taken; the figure in the act of feeding it is the female Maryland Yellow-throat, in whose nest it was found. I claim, however, no merit for a discovery not originally my own, these singular habits having long been known to people of observation resident in the country, whose information, in this case, has preceded that of all our school philosophers and closet naturalists; to whom the matter has till now been totally unknown.

About the twenty-fifth of March, or early in April, the Cowpen-bird makes his first appearance in Pennsylvania from the south, sometimes in company with the Red-winged Blackbird, more frequently in detached parties, resting early in the morning, an hour at a time, on the tops of trees near streams of water, appearing solitary, silent and fatigued. They continue to be occasionally seen, in small solitary parties, particularly along creeks and banks of rivers, so late as the middle of June; after which we see no more of them until about the beginning

or middle of October, when they reappear in much larger flocks, generally accompanied by numbers of the Red-wings; between whom and the present species there is a considerable similarity of manners, dialect, and personal resemblance. In these aerial voyages, like other experienced navigators, they take advantage of the direction of the wind; and always set out with a favorable gale. My venerable and observing friend, Mr. Bartram, writes me on the 13th of October, as follows: "The day before yesterday, at the height of the north-east storm, prodigious numbers of the Cowpen-birds came by us, in several flights of some thousands in a flock; many of them settled on trees in the garden to rest themselves; and then resumed their voyage southward. There were a few of their *cousins*, the Red-wings, with them. We shot three, a male and two females."

From the early period at which these birds pass in the spring, it is highly probable that their migrations extend very far north. Those which pass in the months of March and April can have no opportunity of depositing their eggs here, there being not more than one or two of our small birds which build so early. Those that pass in May and June, are frequently observed loitering singly about solitary thickets, reconnoitering, no doubt, for proper nurses, to whose care they may commit the hatching of their eggs, and the rearing of their helpless orphans. Among the birds selected for this duty are the following, all of which are figured and described in this and the preceding volume: the Blue-bird, which builds in a hollow tree; the Chipping Sparrow, in a cedar bush; the Golden-crowned Thrush, on the ground, in the shape of an oven; the Red-eyed Flycatcher, a neat pensile nest, hung by the two upper edges on a small sapling, or drooping branch; the Yellow-bird, in the fork of an alder; the Maryland Yellow-throat, on the ground at the roots of briar bushes; the White-eyed Flycatcher, a pensile nest on the bending of a smilax vine; and the small Blue Gray Flycatcher, also a pensile nest, fastened to the slender twigs of a tree, sometimes at the height of fifty or sixty feet from the ground. The three last mentioned nurses are represented on the same plate with the bird now under consideration. There are, no doubt, others to whom the same charge is committed; but all these I have myself met with acting in that capacity.

Among these the Yellow-throat, and the Red-eyed Flycatcher, appear to be particular favorites; and the kindness and affectionate attention which these two little birds seem to pay to their nurslings, fully justify the partiality of the parents.

It is well known to those who have paid attention to the manners of birds, that after their nest is fully finished, a day or two generally elapses before the female begins to lay. This delay is in most cases necessary to give firmness to the yet damp materials and allow them time to

dry. In this state it is sometimes met with, and laid in by the Cow Bunting; the result of which I have invariably found to be the desertion of the nest by its rightful owner, and the consequent loss of the egg thus dropped in it by the intruder. But when the owner herself has begun to lay, and there are one or more eggs in the nest before the Cow Bunting deposits hers, the attachment of the proprietor is secured, and remains unshaken until incubation is fully performed, and the little stranger is able to provide for itself.

The well known practice of the young Cuckoo of Europe in turning out all the eggs and young which it feels around it, almost as soon as it is hatched, has been detailed in a very satisfactory and amusing manner by the amiable Dr. Jenner,* who has since risen to immortal celebrity, in a much nobler pursuit; and to whose genius and humanity the whole human race are under everlasting obligations. In our Cow Bunting, though no such habit has been observed, yet still there is something mysterious in the disappearance of the nurse's own eggs soon after the foundling is hatched, which happens regularly before all the rest. From twelve to fourteen days is the usual time of incubation with our small birds; but although I cannot exactly fix the precise period requisite for the egg of the Cow Bunting, I think I can say almost positively, that it is a day or two less than the shortest of the above-mentioned spaces! In this singular circumstance we see a striking provision of the Deity; for did this egg require a day or two more instead of so much less than those among which it has been dropped, the young it contained would in every instance most inevitably perish; and thus in a few years the whole species must become extinct. On the first appearance of the young Cow Bunting, the parent being frequently obliged to leave the nest to provide sustenance for the foundling, the business of incubation is thus necessarily interrupted; the disposition to continue it abates; nature has now given a new direction to the zeal of the parent, and the remaining eggs, within a day or two at most, generally disappear. In some instances, indeed, they have been found on the ground near, or below, the nest; but this is rarely the case.

I have never known more than one egg of the Cow Bunting dropped in the same nest. This egg is somewhat larger than that of the Bluebird, thickly sprinkled with grains of pale brown on a dirty white ground. It is of a size proportionable to that of the bird.

So extraordinary and unaccountable is this habit, that I have sometimes thought it might not be general among the whole of this species in every situation; that the extreme heat of our summers, though suitable enough for their young, might be too much for the comfortable residence of the parents; that, therefore, in their way to the north, through

* See Philosophical Transactions for 1788, Part II.

our climate, they were induced to secure suitable places for their progeny; and that in the regions where they more generally pass the summer, they might perhaps build nests for themselves, and rear their own young, like every other species around them. On the other hand, when I consider that many of them tarry here so late as the middle of June, dropping their eggs, from time to time, into every convenient receptacle; that in the states of Virginia, Maryland, Delaware, New Jersey and Pennsylvania, they uniformly retain the same habits; and, in short, that in all these places I have never yet seen or heard of their nest;—reasoning from these facts, I think I may safely conclude, that they never build one; and that in those remote northern regions their manners are the same as we find them here.

What reason Nature may have for this extraordinary deviation from her general practice, is, I confess, altogether beyond my comprehension. There is nothing singular to be observed in the anatomical structure of the bird that would seem to prevent or render it incapable of incubation. The extreme heat of our climate is probably one reason why in the months of July and August they are rarely to be seen here. Yet we have many other migratory birds that regularly pass through Pennsylvania to the north, leaving a few residents behind them; who, without exception, build their own nests and rear their own young. This part of the country also abounds with suitable food, such as they usually subsist on. Many conjectures indeed might be formed as to the probable cause; but all of them, that have occurred to me, are unsatisfactory and inconsistent. Future, and more numerous observations, made with care, particularly in those countries where they most usually pass the summer, may throw more light on this matter; till then we can only rest satisfied with the reality of the fact.

This species winters regularly in the lower parts of North and South Carolina, and Georgia; I have also met with them near Williamsburg, and in several other parts of Virginia. In January, 1809, I observed strings of them for sale in the market of Charleston, South Carolina. They often frequent corn and rice-fields in company with their cousins, as Mr. Bartram calls them, the Red-winged Blackbirds; but are more commonly found accompanying the cattle, feeding on the seeds, worms, &c., which they pick up amongst the fodder and from the excrements of the cattle, which they scratch up for this purpose. Hence they have pretty generally obtained the name of *Cowpen-birds*, *Cow-birds*, or *Cow Blackbirds*. By the naturalists of Europe they have hitherto been classed with the Finches; though improperly, as they have no family resemblance to that tribe sufficient to justify that arrangement. If we are to be directed by the conformation of their bill, nostrils, tongue, and claws, we cannot hesitate a moment in classing them with the Red-winged Blackbirds, *Oriolus Phœniceus*; not, however, as *Orioles*, but as

Buntings, or some new intermediate genus; the notes or dialect of the Cow Bunting and those of the Red-wings, as well as some other peculiarities of voice and gesticulation, being strikingly similar.

Respecting this extraordinary bird I have received communications from various quarters, all corroborative of the foregoing particulars. Among these is a letter from Dr. Potter of Baltimore, which as it contains some new and interesting facts, and several amusing incidents, illustrative of the character of the bird, I shall with pleasure lay before the reader, apologizing to the obliging writer for a few unimportant omissions, which have been anticipated in the preceding pages.

"I regret exceedingly that professional avocations have put it out of my power to have replied earlier to your favor of the 19th of September; and although I shall not now reflect all the light you desire, a faithful transcript from memoranda noted at the moment of observation, may not be altogether uninteresting.

"The *Fringilla pecoris*, is generally known in Maryland by the name of the Cow Blackbird; and none but the naturalist view it as a distinct species. It appears about the last of March, or first week in April; though sometimes a little earlier when the spring is unusually forward. It is less punctual in its appearance than many other of our migratory birds.

"It commonly remains with us till about the last of October; though unusually cold weather sometimes banishes it much earlier. It however sometimes happens that a few of them remain with us all winter, and are seen hovering about our barns and farm-yards when straitened for sustenance by snow or hard frost. It is remarkable that in some years I have not been able to discover one of them during the months of July and August; when they have suddenly appeared in September in great numbers. I have noticed this fact always immediately after a series of very hot weather, and then only. The general opinion is that they then retire to the deep recesses of the shady forest; but if this had been the fact, I should probably have discovered them in my rambles in every part of the woods. I think it more likely that they migrate further north till they find a temperature more congenial to their feelings, or find a richer repast in following the cattle in a better pasture.*

* "It may not be improper to remark here, that the appearance of this bird in spring is sometimes looked for with anxiety by the farmers. If the horned cattle happen to be diseased in spring they ascribe it to worms, and consider the pursuit of the birds as an unerring indication of the necessity of medicine. Although this hypothesis of the worms infesting the cattle so as to produce much disease is problematical, their superabundance at this season cannot be denied. The larvæ of several species are deposited in the vegetables when green, and the cattle are fed on them as fodder in winter. This furnishes the principal inducement for the

"In autumn we often find them congregated with the Marsh Black-birds, committing their common depredations upon the ears of the Indian corn; and at other seasons the similarity of their pursuits in feeding introduces them into the same company. I could never observe that they would keep the company of any other bird.

"The Cowpen finch differs moreover in another respect from all the birds with which I am acquainted. After an observance of many years I could never discover anything like *pairing* or a mutual attachment between the sexes. Even in the season of love, when other birds are separated into pairs, and occupied in the endearing office of providing a receptacle for their offspring, the Fringillæ are seen feeding in odd as well as even numbers, from one to twenty, and discovering no more disposition towards perpetuating their species than birds of any other species at other seasons, excepting a promiscuous concubinage which pervades the whole tribe. When the female separates from the company, her departure is not noticed; no gallant partner accompanies her, nor manifests any solicitude in her absence; nor is her return greeted by that gratulatory tenderness that so eminently characterizes the males of other birds. The male proffers the same civilities to any female indiscriminately, and they are reciprocated accordingly, without exciting either resentment or jealousy in any of the party. This want of sexual attachment is not inconsistent with the general economy of this singular bird; for as they are neither their own architect, nor nurse of their own young, the degree of attachment that governs others would be superfluous.

"That the Fringilla never builds a nest for itself you may assert without the hazard of a refutation. I once offered a premium for the nest, and the negroes in the neighborhood brought me a variety of nests, but they were always traced to some other bird. The time of depositing their eggs is from the middle of April to the last of May, or nearly so; corresponding with the season of laying observed by the small birds, on whose property it encroaches. It never deposits but one egg in the same nest, and this is generally after the rightful tenant begins to deposit hers, but never I believe after she has commenced the process of incubation. It is impossible to say how many they lay in a season, unless they could be watched when confined in an aviary.

"By a minute attention to a number of these birds when they feed in a particular field in the laying season, the deportment of the female, when the time of laying draws near, becomes particularly interesting.

bird to follow the cattle in spring, when the aperient effect of the green grasses evacuates great numbers of worms. At this season the *pecoris* often stuffs its crop with them till it can contain no more. There are several species, but the most numerous is a small white one similar to, if not the same as, the *ascaris* of the human species."

She deserts her associates, assumes a drooping sickly aspect, and perches upon some eminence where she can reconnoitre the operations of other birds in the process of nidification. If a discovery suitable to her purpose cannot be made from her stand, she becomes more restless, and is seen flitting from tree to tree, till a place of deposit can be found. I once had an opportunity of witnessing a scene of this sort which I cannot forbear to relate. Seeing a female prying into a bunch of bushes in search of a nest, I determined to see the result, if practicable; and knowing how easily they are disconcerted by the near approach of man, I mounted my horse, and proceeded slowly, sometimes seeing and sometimes losing sight of her, till I had travelled nearly two miles along the margin of a creek. She entered every thick place, prying with the strictest scrutiny into places where the small birds usually build, and at last darted suddenly into a thick copse of alders and briars, where she remained five or six minutes, when she returned, soaring above the underwood, and returned to the company she had left feeding in the field. Upon entering the covert I found the nest of a Yellow-throat, with an egg of each. Knowing the precise time of deposit, I noted the spot and date with a view of determining a question of importance, the time required to hatch the egg of the Cow-bird, which I supposed to commence from the time of the Yellow-throat's laying the last egg. A few days after, the nest was removed I knew not how, and I was disappointed. In the progress of the Cow-bird along the creek's side she entered the thick boughs of a small cedar, and returned several times before she could prevail on herself to quit the place; and upon examination, I found a Sparrow sitting on its nest, on which she no doubt would have stolen in the absence of the owner. It is, I believe certain, that the Cowpen finch never makes a forcible entry upon the premises by attacking other birds and ejecting them from their rightful tenements, although they are all perhaps inferior in strength, except the Blue-bird, which, although of a mild as well as affectionate disposition, makes a vigorous resistance when assaulted. Like most other tyrants and thieves they are cowardly, and accomplish by stealth what they cannot obtain by force.

“The deportment of the Yellow-throat on this occasion is not to be omitted. She returned while I waited near the spot, and darted into her nest, but returned immediately and perched upon a bough near the place, remained a minute or two and entered it again, returned and disappeared. In ten minutes she returned with the male. They chattered with great agitation for half an hour, seeming to participate in the affront, and then left the place. I believe all the birds thus intruded on manifest more or less concern at finding the egg of a stranger in their own nests. Among these the Sparrow is particularly punctilious; for she sometimes chirps her complaints for a day or two, and often deserts the

premises altogether, even after she has deposited one or more eggs. The following anecdote will show not only that the Cowpen finch insinuates herself slyly into the nests of other birds, but that even the most pacific of them will resent the insult. A Blue-bird had built for three successive seasons in the cavity of a mulberry tree near my dwelling. One day when the nest was nearly finished, I discovered a female Cow-bird perched upon a fence stake near it, with her eyes apparently fixed upon the spot while the builder was busy in adjusting her nest. The moment she left it the intruder darted into it, and in five minutes returned and sailed off to her companions with seeming delight, which she expressed by her gestures and notes. The Blue-bird soon returned and entered the nest, but instantaneously fluttered back with much apparent hesitation, and perched upon the highest branch of the tree, uttering a rapidly repeated note of complaint and resentment, which soon brought the male, who reciprocated her feelings by every demonstration of the most vindictive resentment. They entered the nest together and returned several times, uttering their uninterrupted complaints for ten or fifteen minutes. The male then darted away to the neighboring trees as if in quest of the offender, and fell upon a Cat-bird, which he chastised severely, and then turned to an innocent Sparrow that was chanting its ditty in a peach tree. Notwithstanding the affront was so passionately resented, I found the Blue-bird had laid an egg the next day. Perhaps a tenant less attached to a favorite spot would have acted more fastidiously, by deserting the premises altogether. In this instance, also, I determined to watch the occurrences that were to follow, but on one of my morning visits I found the common enemy of the eggs and young of all the small birds had despoiled the nest, a Coluber was found coiled in the hollow, and the eggs sucked.

“Agreeably to my observation, all the young birds destined to cherish the young Cow-bird are of a mild and affectionate disposition; and it is not less remarkable, that they are all smaller than the intruder; the Blue-bird is the only one nearly as large. This is a good-natured mild creature, although it makes a vigorous defence when assaulted. The Yellow-throat, the Sparrow, the Goldfinch, the Indigo-bird, and the Blue-bird, are the only birds in whose nests I have found the eggs or the young of the Cowpen finch, though doubtless there are some others.

“What becomes of the eggs or young of the proprietor? This is the most interesting question that appertains to this subject. There must be some special law of nature which determines that the young of the proprietors are never to be found tenants in common with the young Cow-bird. I shall offer the result of my own experience on this point, and leave it to you and others better versed in the mysteries of nature than I am to draw your own conclusions. Whatever theory may be adopted the facts must remain the same. Having discovered a

Sparrow's nest with five eggs, four and one, and the Sparrow sitting, I watched the nest daily. The egg of the Cow-bird occupied the centre, and those of the Sparrow were pushed a little up the sides of the nest. Five days after the discovery I perceived the shell of the Finch's egg broken, and the next the bird was hatched. The Sparrow returned while I was near the nest, with her mouth full of food with which she fed the young Cow-bird with every possible mark of affection, and discovered the usual concern at my approach. On the succeeding day only two of the Sparrow's eggs remained, and the next day there were none. I sought in vain for them on the ground and in every direction.

"Having found the eggs of the Cow-bird in the nest of a Yellow-throat, I repeated my observations. The process of incubation had commenced, and on the seventh day from the discovery I found a young Cow-bird that had been hatched during my absence of twenty-four hours, all the eggs of the proprietor remaining. I had not an opportunity of visiting the nest for three days, and on my return there was only one egg remaining, and that rotten. The Yellow-throat attended the young interloper with the same apparent care and affection as if it had been its own offspring.

"The next year my first discovery was in a Blue-bird's nest built in a hollow stump. The nest contained six eggs, and the process of incubation was going on. Three or four days after my first visit I found a young Cow-bird, and three eggs remaining. I took the eggs out; two contained young birds apparently come to their full time, and the other was rotten. I found one of the other eggs on the ground at the foot of the stump, differing in no respect from those in the nest, no signs of life being discoverable in either.

"Soon after this I found a Goldfinch's nest with one egg of each only, and I attended it carefully till the usual complement of the owner were laid. Being obliged to leave home, I could not ascertain precisely when the process of incubation commenced; but from my reckoning, I think the egg of the Cow-bird must have been hatched in nine or ten days from the commencement of incubation. On my return I found the young Cow-bird occupying nearly the whole nest, and the foster mother as attentive to it as she could have been to her own. I ought to acknowledge here, that in none of these instances could I ascertain exactly the time required to hatch the Cow-bird's eggs; and that of course none of them are decisive; but is it not strange that the egg of the intruder should be so uniformly the first hatched? The idea of the egg being larger, and therefore from its own gravity finding the centre of the nest, is not sufficient to explain the phenomenon; for in this situation the other eggs would be proportionably elevated at the sides, and therefore receive as much or more warmth from the body of the

incumbent than the other.* This principle would scarcely apply to the eggs of the Blue-bird, for they are nearly of the same size; if there be any difference it would be in favor of the eggs of the builder of the nest. How do the eggs get out of the nest? Is it by the size and nestling of the young Cow-bird? This cannot always be the case; because in the instance of the Blue-bird's nest in the hollow stump, the cavity was a foot deep, the nest at the bottom, and the ascent perpendicular; nevertheless the eggs were removed although filled with young ones; moreover, a young Cowpen finch is as helpless as any other young bird, and so far from having the power of ejecting others from the nest, or even the eggs, that they are sometimes found on the ground under the nest, especially when the nest happens to be very small. I will not assert that the eggs of the builder of the nest are never hatched; but I can assert that I have never been able to find one instance to prove the affirmative. If all the eggs of both birds were to be hatched, in some cases the nest would not hold half of them; for instance, those of the Sparrow, or Yellow-bird. I will not assert that the supposititious egg is brought to perfection in less time than those of the bird to which the nest belongs; but from the fact stated, I am inclined to adopt such an opinion. How are the eggs removed after the accouchement of the spurious occupant? By the proprietor of the nest unquestionably; for this is consistent with the rest of her economy. After the power of hatching them is taken away by her attention to the young stranger, the eggs would be only an encumbrance, and therefore instinct prompts her to remove them. I might add, that I have sometimes found the eggs of the Sparrow, in which were unmatured young ones, lying near the nest, containing a Cow-bird, and therefore I cannot resist this conclusion. Would the foster parent feed two species of young at the same time? I believe not. I have never seen an instance of any bird feeding the young of another, unless immediately after losing her own. I should think the sooty looking stranger would scarcely interest a mother while the cries of her own offspring, always intelligible, were to be heard. Should such a competition ever take place, I judge the stranger would be the sufferer, and probably the species soon become extinct. Why the *lex naturæ conservatrix* should decide in favor of the surreptitious progeny is not for me to determine.

"As to the vocal powers of this bird, I believe its pretensions are very humble, none of its notes deserving the epithet musical. The sort of simple cackling complaint it utters at being disturbed, constitutes also the expression of its pleasure at finding its companions, varying

* The ingenious writer seems not to be aware that almost all birds are in the habit, while sitting, of changing the eggs from the centre to the circumference, and *vice versa*, that all of them may receive an equal share of warmth.

only in a more rapidly repeated monotony. The deportment of the male, during his promiscuous intercourse with the other sex, resembles much that of a pigeon in the same situation. He uses nearly the same gestures; and by attentively listening you will hear a low, guttural sort of muttering, which is the most agreeable of his notes, and not unlike the cooing of a pigeon. This, sir, is the amount of my information on this subject; and is no more than a transcript from my notes made several years ago. For ten years past since I have lived in this city, many of the impressions of nature have been effaced, and artificial ideas have occupied their places. The pleasure I formerly received in viewing and examining the objects of nature, are, however, not entirely forgotten; and those which remain, if they can interest you, are entirely at your service. With the sincerest wishes for the success of your useful and arduous undertaking,

“I am, dear sir,

“Yours, very respectfully,

“NATHANIEL POTTER.”

To the above very interesting detail I shall add the following recent fact which fell under my own observation, and conclude my account of this singular species.

In the month of July last I took from the nest of the Maryland Yellow-throat, which was built among the dry leaves at the root of a briar bush, a young male Cow Bunting, which filled and occupied the whole nest. I had previously watched the motions of the foster parents for more than an hour, in order to ascertain whether any more of their young were lurking about or not; and was fully satisfied that there were none. They had in all probability perished in the manner before mentioned. I took this bird home with me, and placed it in the same cage with a Red-bird (*Loxia cardinalis*), who, at first, and for several minutes after, examined it closely, and seemingly with great curiosity. It soon became clamorous for food, and from that moment the Red-bird seemed to adopt it as his own, feeding it with all the assiduity and tenderness of the most affectionate nurse. When he found that the grasshopper which he had brought it was too large for it to swallow, he took the insect from it, broke it in small portions, chewed them a little to soften them, and with all the gentleness and delicacy imaginable put them separately into its mouth. He often spent several minutes in looking at and examining it all over, and in picking off any particles of dirt that he observed on its plumage. In teaching and encouraging it to learn to eat of itself, he often reminded me of the lines of Goldsmith,

He tried each art, reproved each dull delay,
Allured to “fav’rite food,” and led the way.

This Cow-bird is now six months old, is in complete plumage; and repays the affectionate services of his foster parent with a frequent display of all the musical talents with which nature has gifted him. These, it must be confessed, are far from being ravishing; yet for their singularity are worthy of notice. He spreads his wings, swells his body into a globular form, bristling every feather in the manner of a turkey cock, and with great seeming difficulty utters a few low, spluttering notes, as if proceeding from his belly; always, on these occasions, strutting in front of the spectator with great consequential affectation.

To see the Red-bird, who is himself so excellent a performer, silently listening to all this guttural splutter, reminds me of the great Handel contemplating a wretched cat-gut scraper. Perhaps, however, these may be meant for the notes of *love* and *gratitude*, which are sweeter to the ear, and dearer to the heart, than all the artificial solos or concertos on this side heaven.

The length of this species is seven inches, breadth eleven inches; the head and neck is of a very deep silky drab; the upper part of the breast a dark changeable violet; the rest of the bird is black, with a considerable gloss of green when exposed to a good light; the form of the bill is faithfully represented in the plate; it is evidently that of an *Emberiza*; the tail is slightly forked; legs and claws glossy black, strong and muscular; iris of the eye dark hazel. Catesby says of this bird, "it is all over of a brown color, and something lighter below;" a description that applies only to the female, and has been repeated in nearly the same words, by almost all succeeding ornithologists. The young male birds are at first altogether brown, and for a month, or more, are naked of feathers round the eye and mouth; the breast is also spotted like that of a Thrush, with light drab and darker streaks. In about two months after they leave the nest, the black commences at the shoulders of the wings, and gradually increases along each side, as the young feathers come out, until the bird appears mottled on the back and breast with deep black and light drab. At three months the colors of the plumage are complete, and, except in moulting, are subject to no periodical change.

SPECIES V. *EMBERIZA NIVALIS*.

SNOW BUNTING.

[Plate XXI. Fig. 2.]

LINN. *Syst.* 308.—*Arct. Zool.* p. 355, No. 222.—*Tawny Bunting*, *Br. Zool.* No. 121.
—*L'Ortolan de Neige*, BUFFON, IV. 329. *Pl. Enl.* 497.

THIS being one of those birds common to both continents, its migrations extending almost from the very pole, to a distance of forty or fifty degrees around; and its manners and peculiarities having been long familiarly known to the naturalists of Europe, I shall in this place avail myself of the most interesting parts of their accounts; subjoining such particulars as have fallen under my own observation.

“These birds,” says Mr. Pennant, “inhabit not only Greenland* but even the dreadful climate of Spitzbergen, where vegetation is nearly extinct, and scarcely any but *cryptogamous* plants are found. It therefore excites wonder, how birds, which are graminivorous in every other than those frost-bound regions, subsist: yet are there found in great flocks both on the land and ice of Spitzbergen.† They annually pass to this country by way of Norway; for in the spring, flocks innumerable appear, especially on the Norwegian isles; continue only three weeks, and then at once disappear.‡ As they do not breed in Hudson’s Bay it is certain that many retreat to this last of lands, and totally uninhabited, to perform in full security the duties of love, incubation, and nutrition. That they breed in Spitzbergen is very probable; but we are assured that they do so in Greenland. They arrive there in April, and make their nests in the fissures of the rocks, on the mountains, in May; the outside of their nest is grass, the middle of feathers; and the lining the down of the Arctic fox. They lay five eggs, white spotted with brown: they sing finely near their nest.

“They are caught by the boys in autumn when they collect near the shores in great flocks, in order to migrate, and are eaten dried.§

“In Europe they inhabit during summer the most naked Lapland Alps; and descend in rigorous seasons into Sweden, and fill the roads and fields; on which account the Dalecarlians call them *illwarsfogel*, or

* Crantz, 1, 77. † Lord Mulgrave’s Voyage, 188. Martin’s Voyage, 73.

‡ Leems, 256.

§ Faun. Greenl. 118.

bad-weather birds. The Uplanders *hardwarsfogel*, expressive of the same. The Laplanders style them *Alaippg*. Leems* remarks, I know not with what foundation, that they fatten on the flowing of the tides in Finmark; and grow lean on the ebb. The Laplanders take them in great numbers in hair-springs for the tables, their flesh being very delicate.

"They seem to make the countries within the whole Arctic circle their summer residence, from whence they overflow the more southern countries in amazing multitudes, at the setting in of winter in the frigid zone. In the winter of 1778-9, they came in such multitudes into *Birsa*, one of the Orkney islands, as to cover the whole barony; yet of all the numbers hardly two agreed in colors.

"Lapland, and perhaps Iceland, furnishes the north of Briton with the swarms that frequent these parts during winter, as low as the Cheviot Hills, in lat. 52° 32'. Their resting places the *Feroe* isles, *Schotland* and the *Orkneys*. The highlands of Scotland, in particular, abound with them. Their flights are immense, and they mingle so closely together in form of a ball that the fowlers make great havoc among them. They arrive lean, soon become very fat, and are delicious food. They either arrive in the highlands very early, or a few breed there, for I had one shot for me at Invercauld, the fourth of August. But there is a certainty of their migration; for multitudes of them fall, wearied with their passage, on the vessels that are sailing through the Pentland frith.†

"In their summer dress they are sometimes seen in the south of England;‡ the climate not having severity sufficient to affect the colors; yet now and then a milk white one appears, which is usually mistaken for a white Lark.

"Russia and Siberia receive them in their severe seasons annually, in amazing flocks, overflowing almost all Russia. They frequent the villages, and yield a most luxurious repast. They vary there infinitely in their winter colors, are pure white, speckled, and even quite brown.§ This seems to be the influence of difference of age more than of season. Germany has also its share of them. In Austria they are caught and fed with millet, and afford the epicure a treat equal to that of the Ortolan."||

These birds appear in the northern districts of the United States, early in December, or with the first heavy snow, particularly if drifted by high winds. They are usually called the *White* Snow-bird, to distinguish them from the small dark bluish Snow-bird already described. Their numbers increase with the increasing severity of weather, and depth of snow. Flocks of them sometimes reach as far south as the

* Finmark, 255.

‡ Bell's *Travel's*, 1, 198.

† Bishop Pocock's *Journal*, MS.

|| Kramer, *Anim. Austr.* 372.

‡ Morton's *Northamp.* p. 427.

borders of Maryland; and the whiteness of their plumage is observed to be greatest towards the depth of winter. They spread over the Genesee country and the interior of the district of Maine, flying in close compact bodies, driving about most in a high wind; sometimes alighting near the doors, but seldom sitting long, being a roving, restless bird. In these plentiful regions, where more valuable game is abundant, they hold out no temptation to the sportsman or hunter; and except the few caught by boys in snares, no other attention is paid to them. They are, however, universally considered as the harbingers of severe cold weather. How far westward they extend I am unable to say. One of the most intelligent and expert hunters who accompanied Captains Lewis and Clark on their expedition to the Pacific Ocean, informs me, that he has no recollection of seeing these birds in any part of their tour, not even among the bleak and snowy regions of the Stony Mountains; though the little blue one was in abundance.

The Snow Bunting derives a considerable part of its food from the seeds of certain aquatic plants, which may be one reason for its preferring these remote northern countries, so generally intersected with streams, ponds, lakes and shallow arms of the sea, that probably abound with such plants. In passing down the Seneca river towards Lake Ontario, late in the month of October, I was surprised by the appearance of a large flock of these birds feeding on the surface of the water, supported on the tops of a growth of weeds that rose from the bottom, growing so close together that our boat could with great difficulty make its way through them. They were running about with great activity; and those I shot and examined were filled, not only with the seeds of this plant, but with a minute kind of shell fish that adheres to the leaves. In these kind of aquatic excursions they are doubtless greatly assisted by the length of their hind heel and claws. I also observed a few on Table Rock, above the Falls of Niagara, seemingly in search of the same kind of food.

According to the statements of those traders who have resided near Hudson's Bay, the Snow Buntings are the earliest of their migratory birds, appearing there about the eleventh of April, staying about a month or five weeks, and proceeding farther north to breed. They return again in September; stay till November, when the severe frosts drive them southward.*

The summer dress of the Snow Bunting is a tawny brown, interspersed with white, covering the head, neck and lower parts; the back is black, each feather being skirted with brown; wings and tail also black, marked in the following manner:—the three secondaries next the body are bordered with bay, the next with white, and all the rest of the

* Lond. Phil. Trans. LXII. 403.

secondaries, as well as their coverts, and shoulder of the wing, pure white; the first six primaries are black from their coverts downwards to their extremities; tail forked, the three exterior feathers, on each side, white, marked on the outer edge, near the tip, with black; the rest nearly all black; tail coverts reddish brown, fading into white; bill pale brown; legs and feet black; hind claw long like that of the Lark, though more curved. In winter they become white on the head, neck and whole under side, as well as great part of the wings and rump, the back continues black skirted with brown. Some are even found pure white. Indeed so much does their plumage vary according to age and season, that no two are found at any time alike.

SPECIES VI. *EMBERIZA CIRIS*.

PAINTED BUNTING.

[Plate XXIV. Fig. 1, Male.—Fig. 2, Female.]

LINN. *Syst.* 313.—*Painted Finch*, CATESBY, I., 44.—EDW. 130, 173.—*Arct. Zool.* p. 362, No. 226.—*Le Verdier de la Louisiane, dit vulgairement le Pape*, BRISSON, III., 200, *App.* 74.—BUFFON, IV., 76, *Pl. Enl.* 159.—LATH. II., 206.—*Linaria ciris, the Painted Finch, or Nonpareil*, BARTRAM, p. 291.

THIS is one of the most numerous of the little summer birds of Lower Louisiana, where it is universally known among the French inhabitants, and called by them "*Le Pape*," and by the Americans the *Nonpareil*. Its gay dress and docility of manners have procured it many admirers; for these qualities are strongly attractive, and carry their own recommendations always along with them. The low countries of the Southern States, in the vicinity of the sea, and along the borders of our large rivers, particularly among the rice plantations, are the favorite haunts of this elegant little bird. A few are seen in North Carolina; in South Carolina they are more numerous; and still more so in the lower parts of Georgia. To the westward I first met them at Natchez, on the Mississippi, where they seemed rather scarce. Below Baton Rouge, along the levee, or embankment of the river, they appeared in greater numbers; and continued to become more common as I approached New Orleans, where they were warbling from almost every fence, and crossing the road before me every few minutes. Their notes very much resemble those of the Indigo Bird (Plate VI., fig. 6); but want the strength and energy of the latter, being more feeble and more concise.

I found these birds very commonly domesticated in the houses of the French inhabitants of New Orleans; appearing to be the most common

cage bird they have. The negroes often bring them to market from the neighboring plantations, for sale; either in cages, taken in traps, or in the nest. A wealthy French planter, who lives on the banks of the Mississippi, a few miles below *Bayo Fourche*, took me into his garden, which is spacious and magnificent, to show me his aviary; where, among many of our common birds, I observed several Nonpareils, two of which had nests, and were then hatching.

Were the same attention bestowed on these birds as on the Canary, I have no doubt but they would breed with equal facility, and become equally numerous and familiar, while the richness of their plumage might compensate for their inferiority of song. Many of them have been transported to Europe; and I think I have somewhere read that in Holland attempts have been made to breed them and with success. When the employments of the people of the United States become more sedentary, like those of Europe, the innocent and agreeable amusement of keeping and rearing birds in this manner, will become more general than it is at present, and their manners better known. And I cannot but think, that an intercourse with these little innocent warblers is favorable to delicacy of feeling, and sentiments of humanity; for I have observed the rudest and most savage softened into benevolence while contemplating the interesting manners of these inoffensive little creatures.

Six of these birds, which I brought with me from New Orleans by sea, soon became reconciled to the cage. In good weather the males sung with great sprightliness, though they had been caught only a few days before my departure. They were greedily fond of flies, which accompanied us in great numbers during the whole voyage; and many of the passengers amused themselves with catching these and giving them to the Nonpareils; till at length the birds became so well acquainted with this amusement, that as soon as they perceived any of the people attempting to catch flies, they assembled at the front of the cage, stretching out their heads through the wires with eager expectation, evidently much interested in the issue of their success.

These birds arrive in Louisiana from the south about the middle of April, and begin to build early in May. In Savannah, according to Mr. Abbot, they arrive about the twentieth of April. Their nests are usually fixed in orange hedges, or on the lower branches of the orange tree; I have also found them in a common bramble or blackberry bush. They are formed exteriorly of dry grass, intermingled with the silk of caterpillars, lined with hair, and lastly with some extremely fine roots of plants. The eggs are four or five, white, or rather pearl colored, marked with purplish brown specks. As some of these nests had eggs so late as the twenty-fifth of June, I think it probable that they sometimes raise two broods in the same season. The young birds of both

sexes, during the first season, are of a fine green olive above, and dull yellow below. The females undergo little or no change, but that of becoming of a more brownish cast. The males, on the contrary, are long and slow in arriving at their full variety of colors. In the second season the blue on the head begins to make its appearance, intermixed with the olive green. The next year the yellow shows itself on the back and rump; and also the red, in detached spots, on the throat and lower parts. All these colors are completed in the fourth season, except, sometimes, that the green still continues on the tail. On the fourth and fifth season the bird has attained his complete colors, and appears then as represented in the plate (fig. 1). No dependence, however, can be placed on the regularity of this change in birds confined in a cage, as the want of proper food, sunshine, and variety of climate, all conspire against the regular operations of nature.

The Nonpareil is five inches and three quarters long, and eight inches and three quarters in extent; head, neck above, and sides of the same, a rich purplish blue; eyelid, chin, and whole lower parts, vermilion; back and scapulars glossy yellow, stained with rich green, and in old birds with red; lesser wing coverts purple; larger green; wings dusky red, sometimes edged with green; lower part of the back, rump and tail coverts deep glossy red, inclining to carmine; tail slightly forked, purplish brown (generally green); legs and feet leaden gray; bill black above, pale blue below; iris of the eye hazel.

The female (fig. 2) is five and a half inches long, and eight inches in extent; upper parts green olive, brightest on the rump; lower parts a dusky Naples yellow, brightest on the belly, and tinged considerably on the breast with dull green, or olive; cheeks or ear-feathers marked with lighter touches; bill wholly a pale lead color, lightest below; legs and feet the same.

The food of these birds consists of rice, insects, and various kinds of seeds that grow luxuriantly in their native haunts. I also observed them eating the seeds or internal grains of ripe figs. They frequent gardens, building within a few paces of the house; are particularly attached to orangeries; and chant occasionally during the whole summer. Early in October they retire to more southern climates, being extremely susceptible of cold.

SPECIES VII. *EMBERIZA LEUCOPHRYS*.

WHITE-CROWNED BUNTING.

[Plate XXXI. Fig. 4.]

TURTON, *Syst.* p. 536.*

THIS beautifully marked species is one of the rarest of its tribe in the United States, being chiefly confined to the northern districts, or higher interior parts of the country, except in severe winters, when some few wanderers appear in the lower parts of the state of Pennsylvania. Of three specimens of this bird, the only ones I have yet met with, the first was caught in a trap near the city of New York, and lived with me several months. It had no song, and, as I afterwards discovered, was a female. Another, a male, was presented to me by Mr. Michael, of Lancaster, Pennsylvania. The third, a male, and in complete plumage, was shot in the Great Pine Swamp, in the month of May, and is faithfully represented in the plate. It appeared to me to be unsuspicious, silent and solitary; flitting in short flights among the underwood and piles of prostrate trees torn up by a tornado, that some years ago passed through the swamp. All my endeavors to discover the female or nest were unsuccessful.

From the great scarcity of this species our acquaintance with its manners is but very limited. Those persons who have resided near Hudson's Bay, where it is common, inform us, that it makes its nest in June, at the bottom of willows, and lays four chocolate-colored eggs. Its flight is said to be short and silent; but when it perches it sings very melodiously.†

The White-crowned Bunting is seven inches long, and ten inches in extent; the bill a cinnamon brown; crown from the front to the hind head pure white, bounded on each side by a stripe of black proceeding from each nostril; and these again are bordered by a stripe of pure white passing over each eye to the hind head, where they meet; below this another narrow stripe of black passes from the posterior angle of the eye, widening as it descends to the hind head; chin white; breast, sides

* Synonymes: *Emberiza leucophrys*, GMEL. *Syst.* I., p. 874.—LATH. *Syn.* III., p. 200, 44. *Id.* *Sup.* p. 159.—*Id.* *Ind.* I., p. 413.—*White-Crowned Bunting*, ARCT. *Zool.* II., No. 22.

† Arct. *Zool.*

of the neck, and upper parts of the same, very pale ash; back streaked laterally with dark rusty brown and pale bluish white; wings dusky, edged broadly with brown; the greater and lesser coverts tipped broadly with white, forming two handsome bands across the wing; tertials black, edged with brown and white; rump and tail coverts drab, tipped with a lighter tint; tail long, rounded, dusky, and edged broadly with drab; belly white; vent pale yellow ochre; legs and feet reddish brown; eye reddish hazel, lower eyelid white.

The female may easily be distinguished from the male, by the white on the head being less pure, the black also less in extent, and the ash on the breast darker; she is also smaller in size.

There is a considerable resemblance between this species and the White-throated Sparrow, yet they rarely associate together; the latter remaining in the lower parts of Pennsylvania in great numbers, until the beginning of May, when they retire to the north and to the high inland regions to breed; the former inhabiting much more northern countries; and though said to be common in Canada, rarely visiting this part of the United States.

SPECIES VIII. *EMBERIZA GRAMINEA*.

BAY-WINGED BUNTING.

[Plate XXXI. Fig. 5.]

Grass Finch, *Arct. Zool.* No. 253.—LATH. III., 273.—TURTON, *Syst.* 1, p. 565.

THE manners of this bird bear great affinity to those of the common Bunting of Britain. It delights in frequenting grass and clover fields, perches on the tops of the fences, singing from the middle of April to the beginning of July, with a clear and pleasant note, in which particular it far excels its European relation. It is partially a bird of passage here, some leaving us and others remaining with us during the winter. In the month of March I observed them numerous in the lower parts of Georgia, where, according to Mr. Abbot, they are only winter visitants. They frequent the middle of fields more than hedges or thickets; run along the ground like a Lark, which they also resemble in the great breadth of their wings; they are timid birds; and rarely approach the farm house.

Their nest is built on the ground, in a grass or clover field, and formed of old withered leaves and dry grass; and lined with hair. The female lays four or five eggs of a grayish white. On the first week in May I

found one of their nests with four young, from which circumstance I think it probable that they raise two or more broods in the same season.

This bird measures five inches and three quarters in length, and ten inches and a half in extent; the upper parts are cinereous brown, mottled with deep brown or black; lesser wing coverts bright bay, greater black, edged with very pale brown; wings dusky, edged with brown; the exterior primary edged with white; tail sub-cuneiform, the outer feather white on the exterior edge, and tipped with white, the next tipped and edged for half an inch with the same, the rest dusky, edged with pale brown; bill dark brown above, paler below; round the eye is a narrow circle of white; upper part of the breast yellowish white, thickly streaked with pointed spots of black that pass along the sides; belly and vent white; legs and feet flesh colored; third wing feather from the body nearly as long as the tip of the wing when shut.

I can perceive little or no difference between the colors and markings of the male and female.

GENUS XXXVII. TANAGRA. TANAGER.

SPECIES I. *T. RUBRA*.

SCARLET TANAGER.

[Plate XI. Figs. 3 and 4.]

Tanagra rubra, LINN. *Syst.* I., p. 314, 3.—*Cardinal de Canada*, BRISS. *Orn.* III., p. 48, Pl. 2, fig. 5.—LATH. II., p. 217, No. 3.—*Scarlet Sparrow*, EDW. Pl. 343.—*Canada Tanager*, and *Olive Tanager*, ARCT. *Zool.* p. 369, No. 237-238.

THIS is one of the gaudy foreigners (and perhaps the most showy) that regularly visit us from the torrid regions of the south. He is dressed in the richest scarlet, set off with the most jetty black, and comes, over extensive countries, to sojourn for a time among us. While we consider him entitled to all the rights of hospitality, we may be permitted to examine a little into his character, and endeavor to discover, whether he has anything else to recommend him besides that of having a fine coat, and being a great traveller.

On or about the first of May this bird makes his appearance in Pennsylvania. He spreads over the United States, and is found even in Canada. He rarely approaches the habitations of man, unless perhaps to the orchard, where he sometimes builds; or to the cherry trees in search of fruit. The depth of the woods is his favorite abode. There, among the thick foliage of the tallest trees, his simple and almost monotonous notes, *chip, churr*, repeated at short intervals, in a pensive

tone, may be occasionally heard; which appear to proceed from a considerable distance though the bird be immediately above you; a faculty bestowed on him by the beneficent Author of Nature, no doubt for his protection; to compensate in a degree for the danger to which his glowing color would often expose him. Besides this usual note, he has, at times, a more musical chant, something resembling in mellowness that of the Baltimore Oriole. His food consists of large, winged insects, such as wasps, hornets and humble-bees, and also of fruit, particularly those of that species of *Vaccinium* usually called huckle-berries, which in their season form almost his whole fare. His nest is built about the middle of May, on the horizontal branch of a tree, sometimes an apple tree, and is but slightly put together; stalks of broken flax, and dry grass, so thinly wove together that the light is easily perceivable through it, form the repository of his young. The eggs are three, of a dull blue, spotted with brown or purple. They rarely raise more than one brood in a season, and leave us for the south about the last week in August.

Among all the birds that inhabit our woods there is none that strike the eye of a stranger, or even a native, with so much brilliancy as this. Seen among the green leaves, with the light falling strongly on his plumage, he really appears beautiful. If he has little of melody in his notes to charm us, he has nothing in them to disgust. His manners are modest, easy, and inoffensive. He commits no depredations on the property of the husbandman; but rather benefits him by the daily destruction in spring of many noxious insects; and when winter approaches he is no plundering dependant, but seeks in a distant country for that sustenance which the severity of the season denies to his industry in this. He is a striking ornament to our rural scenery, and none of the meanest of our rural songsters. Such being the true traits of his character, we shall always-with pleasure welcome this beautiful, inoffensive stranger, to our orchards, groves and forests.

The male of this species, when arrived at his full size and colors, is six inches and a half in length, and ten and a half broad. The whole plumage is of a most brilliant scarlet, except the wings and tail, which are of a deep black; the latter handsomely forked, sometimes minutely tipped with white, and the interior edges of the wing feathers nearly white; the bill is strong, considerably inflated like those of his tribe, the edge of the upper mandible somewhat irregular, as if toothed, and the whole of a dirty gamboge or yellowish horn color; this however, like that of most other birds, varies according to the season. About the first of August he begins to moult; the young feathers coming out of a greenish yellow color, until he appears nearly all dappled with spots of scarlet and greenish yellow. In this state of plumage he leaves us. How long it is before he recovers his scarlet dress, or whether he continues of this greenish color all winter, I am unable to say. The iris

of the eye is of a cream color, the legs and feet light blue. The female (now I believe for the first time figured) is green above and yellow below; the wings and tail brownish black, edged with green. The young birds, during their residence here the first season, continue nearly of the same color with the female. In this circumstance we again recognise the wise provision of the Deity, in thus clothing the female and the inexperienced young, in a garb so favorable for concealment among the foliage; as the weakness of the one, and the frequent visits of the other to her nest, would greatly endanger the safety of all. That the young males do not receive their red plumage until the early part of the succeeding spring, I think highly probable, from the circumstance of frequently finding their red feathers, at that season, intermixed with green ones, and the wings also broadly edged with green. These facts render it also probable that the old males regularly change their color, and have a summer and winter dress; but this, farther observations must determine.

There is in the Brazils a bird of the same genus with this, and very much resembling it, so much so as to have been frequently confounded with it by European writers. It is the *Tanagra Brazilia* of Turton; and though so like, is a yet very distinct species from the present, as I have myself had the opportunity of ascertaining, by examining two very perfect specimens from Brazil, now in the possession of Mr. Peale, and comparing them with this. The principal differences are these: the plumage of the Brazilian is almost black at bottom, very deep scarlet at the surface, and of an orange tint between; ours is ash colored at bottom, white in the middle, and bright scarlet at top. The tail of ours is *forked*, that of the other cuneiform or *rounded*. The bill of our species is more inflated, and of a greenish yellow color—the other's is black above, and whitish below towards the base. The whole plumage of the southern species is of a coarser, stiffer quality, particularly on the head. The wings and tail, in both, are black.

In the account which Buffon gives of the Scarlet Tanager, and Cardinal Grosbeak, there appears to be very great confusion, and many mistakes; to explain which it is necessary to observe, that Mr. Edwards in his figure of the Scarlet Tanager, or Scarlet Sparrow as he calls it, has given it a hanging crest, owing no doubt to the loose disordered state of the plumage of the stuffed or dried skin from which he made his drawing. Buffon has afterwards confounded the two together by applying many stories originally related of the Cardinal Grosbeak, to the Scarlet Tanager; and the following he gravely gives as his reason for so doing: "We may presume," says he, "that when travellers talk of the warble of the Cardinal they mean the Scarlet Cardinal, for the other Cardinal is of the genus of the Grosbeaks, consequently a silent bird."*

* Buffon, vol. iv., p. 209.

This *silent* bird, however, has been declared by an eminent English naturalist, to be almost equal to their own Nightingale! The Count also quotes the following passage from Charlevoix to prove the same point, which if his translator had done him justice, evidently proves the reverse: "It is scarcely more than a hundred leagues," says this traveller, "*south* of Canada, that the Cardinal begins to be seen. Their song is sweet, their plumage beautiful, and their head wears a crest." But the Scarlet Tanager is found even in Canada, as well as an hundred leagues to the south, while the Cardinal Grosbeak is not found in any great numbers north of Maryland. The latter therefore, it is highly probable, was the bird meant by Charlevoix, and not the Scarlet Tanager. Buffon also quotes an extract of a letter from Cuba, which, if the circumstance it relates be true, is a singular proof of the estimation in which the Spaniards hold the Cardinal Grosbeak. "On Wednesday arrived at the port of Havana a bark from Florida, loaded with Cardinal birds, skins and fruit. The Spaniards bought the Cardinal birds at so high a price as ten dollars a piece; and notwithstanding the public distress spent on them the sum of 18,000 dollars!"*

With a few facts more I shall conclude the history of the Scarlet Tanager. When you approach the nest, the male keeps cautiously at a distance, as if fearful of being seen; while the female hovers around in the greatest agitation and distress. When the young leave the nest the male parent takes a most active part in feeding and attending them, and is then altogether indifferent of concealment.

Passing through an orchard one morning I caught one of these young birds that had but lately left the nest. I carried it with me about half a mile, to show it to my friend Mr. William Bartram; and having procured a cage, hung it up on one of the large pine trees in the Botanic garden, within a few feet of the nest of an *Orchard Oriole*, which also contained young; hoping that the charity, or tenderness of the Orioles, would induce them to supply the cravings of the stranger. But charity with them, as with too many of the human race, began and ended *at home*. The poor orphan was altogether neglected, notwithstanding its plaintive cries; and, as it refused to be fed by me, I was about to return it back to the place where I found it; when, towards the afternoon, a Scarlet Tanager, no doubt its own parent, was seen fluttering round the cage, endeavoring to get in. Finding this impracticable he flew off, and soon returned with food in his bill; and continued to feed it till after sunset, taking up his lodgings on the higher branches of the same tree. In the morning, almost as soon as day broke, he was again seen most actively engaged in the same affectionate manner; and, notwithstanding the insolence of the Orioles, continued his benevolent offices

* Gmelli Careri.

the whole day, roosting at night as before. On the third or fourth day, he appeared extremely solicitous for the liberation of his charge, using every expression of distressful anxiety, and every call and invitation that nature had put in his power for him to come out. This was too much for the feelings of my venerable friend; he procured a ladder, and mounting to the spot where the bird was suspended, opened the cage, took out the prisoner, and restored him to liberty and to his parent, who with notes of great exultation accompanied his flight to the woods. The happiness of my good friend was scarcely less complete, and showed itself in his benevolent countenance; and I could not refrain saying to myself—If such sweet sensations can be derived from a simple circumstance of this kind, how exquisite, how unspeakably rapturous must the delight of those individuals have been, who have rescued their fellow beings from death, chains and imprisonment, and restored them to the arms of their friends and relations! Surely in such godlike actions virtue is its own most abundant reward.

SPECIES II. *TANAGRA ÆSTIVA*.

SUMMER RED-BIRD.

[Plate VI. Fig. 3, Male. Fig. 4, Female.]

Tanagra Mississippensis, LATH. *Ind. Orn.* I., 421, 5.—*Mexican Tanager*, LATHAM, *Syn.* III., 219, 5, B.—*Tanagra variegata*, *Ind. Orn.* I., 421, 6.—*Tanagra æstiva*, *Ind. Orn.* I., 422, 7.—*Muscicapa rubra*, LINN. *Syst.* I., 326, 8.—BUFF. VI. 252, *Pl. Enl.* 741.—CATESB. *Car.* I., 56.—*Merula flammula*, *Sandhill Red-bird*, BARTRAM, 299.

THE change of color which this bird is subject to during the first year, and the imperfect figure first given of it by Catesby, have deceived the European naturalists so much, that four different species have been formed out of this one, as appears by the above synonymes, all of which are referable to the present species, the Summer Red-bird. As the female differs so much in color from the male, it has been thought proper to represent them both; the female having never to my knowledge appeared in any former publication; and all the figures of the other, that I have seen, being little better than caricatures, from which a foreigner can form no just conception of the original.

The male of the Summer Red-bird (fig. 3), is wholly of a rich vermilion color, most brilliant on the lower parts, except the inner vanes and tips of the wings, which are of a dusky brown; the bill is disproportionately large, and inflated, the upper mandible furnished with a process, and the whole bill of a yellowish horn color; the legs and feet

are light blue, inclining to purple; the eye large, the iris of a light hazel color; the length of the whole bird seven inches and a quarter, and between the tips of the expanded wings twelve inches. The female (fig. 4), differs little in size from the male; but is above of a brownish yellow olive, lightest over the eye; throat, breast, and whole lower part of the body of a dull orange yellow; tips and interior vanes of the wings brown; bill, legs, and eye as in the male. The nest is built in the woods on the horizontal branch of a half-grown tree, often an evergreen, at the height of ten or twelve feet from the ground, composed outwardly of broken stalks of dry flax, and lined with fine grass; the female lays three light blue eggs; the young are produced about the middle of June; and I suspect that the same pair raise no more than one brood in a season, for I have never found their nests but in May or June. Towards the middle of August they take their departure for the south, their residence here being scarcely four months. The young are at first of a green olive above, nearly the same color as the female below, and do not acquire their full tints till the succeeding spring or summer.

The change, however, commences the first season before their departure. In the month of August the young males are distinguished from the females by their motleyed garb; the yellow plumage below, as well as the olive green above, first becoming stained with spots of a buff color, which gradually brighten into red; these being irregularly scattered over the whole body, except the wings and tail, particularly the former, which I have often found to contain four or five green quills in the succeeding June. The first of these birds I ever shot was green-winged; and conceiving it at that time to be a nondescript, I made a drawing of it with care; and on turning to it at this moment I find the whole of the primaries, and two of the secondaries yellowish green, the rest of the plumage a full red. This was about the middle of May. In the month of August, of the same year, being in the woods with the gun, I perceived a bird of very singular plumage, and having never before met with such an oddity, instantly gave chase to it. It appeared to me, at a small distance, to be sprinkled all over with red, green, and yellow. After a great deal of difficulty, for the bird had taken notice of my eagerness, and had become extremely shy, I succeeded in bringing it down; and found it to be a young bird of the same species with the one I had killed in the preceding May, but less advanced to its fixed colors; the wings entirely of a greenish yellow, and the rest of the plumage spotted in the most irregular manner, with red, yellow, brown, and greenish. This is the *variegated* Tanager, referred to in the synonymes prefixed to this article. Having, since that time, seen them in all their stages of color, during their residence here, I have the more satisfaction in assuring the reader that the whole four species mentioned

by Dr. Latham are one and the same. The two figures in our plate represent the male and female in their complete plumage, and of their exact size.

The food of these birds consists of various kinds of bugs, and large black beetles. In several instances I have found the stomach entirely filled with the broken remains of humble bees. During the season of whortle-berries they seem to subsist almost entirely on these berries; but in the early part of the season on insects of the above description. In Pennsylvania they are a rare species, having myself sometimes passed a whole summer without seeing one of them; while in New Jersey, even within half a mile of the shore opposite the city of Philadelphia, they may generally be found during the season.

The note of the male is a strong and sonorous whistle, resembling a loose trill or shake on the notes of a fife, frequently repeated; that of the female is rather a kind of chattering, approaching nearly to the *rapid* pronunciation of *chicky-tucky-tuck, chicky-tucky-tuck*, when she sees any person approaching the neighborhood of her nest. She is, however, rarely seen, and usually mute, and scarcely to be distinguished from the color of the foliage at a distance; while the loquacity and brilliant red of the male make him very conspicuous; and when seen among the green leaves, particularly if the light falls strongly on his plumage, he has a most beautiful and elegant appearance. It is worthy of remark, that the females of almost all our splendid feathered birds are dressed in plain and often obscure colors, as if Providence meant to favor their personal concealment, and consequently that of their nest and young from the depredations of birds of prey; while among the latter, such as Eagles, Owls, Hawks, &c., which are under no such apprehension, the females are uniformly covered with richer colored plumage than the males.

The Summer Red-bird delights in a flat sandy country covered with wood, and interspersed with pine trees, and is consequently more numerous towards the shores of the Atlantic than in the interior. In both Carolinas, and in Georgia and Florida, they are in great plenty. In Mexico some of them are probably resident, or at least winter there; as many other of our summer visitants are known to do. In the Northern States they are very rare; and I do not know that they have been found either in Upper or Lower Canada. Du Pratz, in his History of Louisiana, has related some particulars of this bird, which have been repeated by almost every subsequent writer on the subject, viz. that "it inhabits the woods on the Mississippi, and collects against winter a vast magazine of maize, which it carefully conceals with dry leaves, leaving only a small hole for entrance; and is so jealous of it, as never to quit its neighborhood except to drink." It is probable, though I cannot corroborate the fact, that individuals of this species may winter

near the Mississippi; but that in a climate so moderate, and where such an exuberance of fruits, seeds, and berries are to be found, even during winter, this or any other bird should take so much pains in hoarding a vast quantity of Indian corn, and attach itself so closely to it, is rather apocryphal. The same writer, vol. ii. p. 24, relates similar particulars of the Cardinal Grosbeak (*Loxia Cardinalis*), which, though it winters in Pennsylvania, where the climate is much more severe, and where the length and rigors of that season would require a far larger magazine, and be a three-fold greater stimulus to hoarding, yet has no such habit here. Besides I have never found a single grain of Indian corn in the stomach of the Summer Red-bird; though I have examined many individuals of both sexes. On the whole, I consider this account of Du Pratz's in much the same light with that of his countryman Charlevoix, who gravely informs us, that the Owls of Canada lay up a store of live mice for winter, the legs of which they first break, to prevent them from running away, and then feed them carefully, and fatten them, till wanted for use.*

Its manners, though neither its bill nor tongue, partake very much of those of the Flycatcher; for I have frequently observed both male and female, a little before sunset, in parts of the forest clear of under-wood, darting after winged insects, and continuing thus engaged till it was almost dusk.

SPECIES III. *TANAGRA LUDOVICIANA*.

LOUISIANA TANAGER.

[Plate XX. Fig. 1.]

THIS bird, and the two others that occupy the same plate, were discovered in the remote regions of Louisiana, by an exploring party under the command of Captain George Merriwether Lewis, and Lieutenant, now General, William Clark, in their memorable expedition across the continent to the Pacific Ocean. They are entitled to a distinguished place in the pages of AMERICAN ORNITHOLOGY, both as being till now, altogether unknown to naturalists, and as natives of what *is*, or at least *will* be, and that at no distant period, part of the western territory of the United States.

The frail remains of the bird now under consideration, as well as of the other two, have been set up by Mr. Peale, in his Museum, with as

* Travels in Canada, Vol. I, p. 239. Lond. 1761, 8vo.

much neatness as the state of the skins would permit. Of three of these, which were put into my hands for examination, the most perfect was selected for the drawing. Its size and markings were as follow. Length six inches and a half; back, tail, and wings black; the greater wing-coverts tipped with yellow, the next superior row wholly yellow; neck, rump, tail-coverts and whole lower parts greenish yellow; forepart of the head to and beyond the eyes, light scarlet; bill yellowish horn color; edges of the upper mandible ragged, as in the rest of its tribe; legs light blue; tail slightly forked, and edged with dull whitish: the whole figure about the size, and much resembling in shape, the Scarlet Tanager (Plate XI, fig. 3.); but evidently a different species, from the black back, and yellow coverts. Some of the feathers on the upper part of the back were also skirted with yellow. A skin of what I suppose to be the female, or a young bird, differed in having the wings and back brownish; and in being rather less.

The family, or genus, to which this bird belongs, is particularly subject to changes of color, both progressively, during the first and second seasons; and also periodically, afterwards. Some of those that inhabit Pennsylvania change from an olive green to a greenish yellow; and, lastly, to a brilliant scarlet; and I confess when the preserved specimen of the present species was first shown me, I suspected it to have been passing through a similar change at the time it was taken. But having examined two more skins of the same species, and finding them all marked very nearly alike, which is seldom the case with those birds that change while moulting, I began to think that this might be its most permanent, or at least its summer or winter dress.

The little information I have been able to procure of the species generally, or at what particular season these were shot, prevents me from being able to determine this matter to my wish.

I can only learn, that they inhabit the extensive plains or prairies of the Missouri, between the Osage and Mandan nations; building their nests in low bushes, and often among the grass. With us the Tanagers usually build on the branches of a hickory or white oak sapling. These birds delight in various kinds of berries with which those rich prairies are said to abound.

GENUS XXXVIII. FRINGILLA. FINCH.

SPECIES I. *F. TRISTIS*.

YELLOW-BIRD, OR GOLDFINCH.

[Plate I. Fig. 2.]

LINN. *Syst.* I., p. 320.—*Carduelis Americana*, BRISS. III., p. 64.—*Le Chardonneret jaune*, BUFF. IV., p. 112, *Pl. Enl.* 202, f. 2.—*American Goldfinch*, *Arct. Zool.* II., No. 242.—EWD. 274.—LATH. *Syn.* III., p. 288, 57.—*Id. Sup.* p. 166.—BARTRAM, p. 290.

THIS bird is four inches and a half in length, and eight inches in extent; of a rich lemon yellow, fading into white towards the rump and vent. The wings and tail are black, the former tipped and edged with white, the interior webs of the latter are also white; the fore part of the head is black; the bill and legs of a reddish cinnamon color. This is the summer dress of the male; but in the month of September, the yellow gradually changes to a brown olive, and the male and female are then nearly alike. They build a very neat and delicately formed little nest, which they fasten to the twigs of an apple tree, or to the strong branching stalks of hemp, covering it on the outside with pieces of lichen, which they find on the trees and fences; these they glue together with their saliva, and afterwards line the inside with the softest downy substances they can procure. The female lays five eggs, of a dull white, thickly marked at the greater end; and they generally raise two broods in a season. The males do not arrive at their perfect plumage until the succeeding spring; wanting, during that time, the black on the head; and the white on the wings being of a cream color. In the month of April they begin to change their winter dress, and before the middle of May appear in brilliant yellow: the whole plumage towards its root is of a dusky bluish black.

The song of the Yellow-bird resembles that of the Goldfinch of Britain; but is in general so weak as to appear to proceed from a considerable distance, when perhaps the bird is perched on the tree over your head. I have, however, heard some sing in cages with great energy and animation. On their first arrival in Pennsylvania, in February, and until early in April, they associate in flocks, frequently assembling in great numbers on the same tree to bask and dress themselves in the morning sun, singing in concert for half an hour together; the confused

mingling of their notes forming a kind of harmony not at all unpleasant. About the last of November, and sometimes sooner, they *generally* leave Pennsylvania, and proceed to the south; some, however, are seen even in the midst of the severest winters. Their flight is not direct, but in alternate risings and sinkings, twittering as they fly, at each successive impulse of the wings. During the latter part of summer they are almost constant visitors in our gardens, in search of seeds, which they dislodge from the husk with great address, while hanging, frequently head downwards, in the manner of the Titmouse. From these circumstances, as well as from their color, they are very generally known, and pass by various names expressive of their food, color, &c., such as Thistle-bird, Lettuce-bird, Salad-bird, Yellow-bird, &c., &c. The gardeners who supply the city of Philadelphia with vegetables often take them in trap-cages, and expose them for sale in the market. They are easily familiarized to confinement, and feed with seeming indifference a few hours after being taken.

The great resemblance which the Yellow-bird bears to the Canary, has made many persons attempt to pair individuals of the two species together. An ingenious French gentleman who resides in Pottsgrove, Pennsylvania, assured me that he had tried the male Yellow-bird with the female Canary, and the female Yellow-bird with the male Canary, but without effect, though he kept them for several years together, and supplied them with proper materials for building. Mr. Hassey, of New York, however, who keeps a great number of native as well as foreign birds, informed me, that a Yellow-bird paired with a Canary in his possession, and laid eggs, but did not hatch, which he attributed to the lateness of the season.

These birds, as has been before observed, were seen by Mr. McKenzie, in his route across the continent of North America, as far north as lat. 54°; they are numerous in all the Atlantic states north of the Carolinas; abound in Mexico, and are also found in great numbers in the savannahs of Guiana.

The seeds of the lettuce, thistle, hemp, &c., are their favorite food, and it is pleasant to observe a few of them at work on a calm day, detaching the thistle-down in search of the seeds, making it fly in clouds around them. The figure on the plate represents this bird of its natural size.

The American Goldfinch has been figured and described by Catesby,* who says that the back part of the head is a dirty green, &c. This description must have been taken while the bird was changing its plumage. At the approach of fall, not only the rich yellow fades into a brown olive; but the spot of black on the crown and forehead, becomes

* Nat. Hist. Car. vol. i., p. 43.

also of the same olive tint. Mr. Edwards has also erred in saying that the young male bird has the spot of black on the forehead; this it does not receive until the succeeding spring. The figure in Edwards is considerably too large; and that by Catesby has the wings and tail much longer than in nature, and the body too slender; very different from the true form of the living bird. Mr. Pennant also tells us, that the legs of this species are *black*; they are, however, of a bright cinnamon color; but the worthy naturalist, no doubt, described them as he found them in the dried and stuffed skin, shrivelled up and blackened with decay; and thus too much of our natural history has been delineated.

SPECIES II. *FRINGILLA PURPUREA*.

PURPLE FINCH.

[Plate VII. Fig. 4, adult male.]

Fringilla purpurea, GMEL. *Syst.* I, 923.—*Bouvreuil violet de la Caroline*, BUFF. IV. 395.—*Purple Finch*, *Arct. Zool.* II., No. 258.—CATESB. I., 41.—LATH. *Syn.* III., 299, 39.—*Crimson-headed Finch*, *Arct. Zool.* II., No. 257.—LATH. *Syn.* III., 275, 39.—*Hemp-bird*, BARTRAM, 291. *Fringilla purpurea*, Id. 291.

THIS is a winter bird of passage, coming to us in large flocks from the north, in September and October, great numbers remaining with us in Pennsylvania during the whole winter, feeding on the seeds of the poplar, button-wood, juniper, cedar, and on those of many rank weeds that flourish in rich bottoms, and along the margin of creeks. When the season is very severe they proceed to the south, as far at least as Georgia, returning north early in April. They now frequent the elm trees, feeding on the slender but sweet covering of the flowers; and as soon as the cherries put out their blossoms, feed almost exclusively on the stamina of the flowers; afterwards the apple blossoms are attacked in the same manner; and their depredations on these continue till they disappear, which is usually about the tenth or middle of May. I have been told that they sometimes breed in the northern parts of New York, but have never met with their nests. About the middle of September I found these birds numerous on Long Island, and round Newark, in New Jersey. They fly at a considerable height in the air, and their note is a single *chink* like that of the Rice-bird. They possess great boldness and spirit, and when caught bite violently, and hang by the bill from your hand, striking with great fury; but they are soon reconciled to confinement, and in a day or two are quite at home. I have kept a pair of these birds upwards of nine months, to observe their manners. One was caught in a trap, the other was winged with the

gun; both are now as familiar as if brought up from the nest by the hand, and seem to prefer hempseed and cherry blossoms to all other kinds of food. Both male and female, though not crested, are almost constantly in the habit of erecting the feathers of the crown; they appear to be of a tyrannical and domineering disposition, for they nearly killed an Indigo-bird, and two or three others that were occasionally placed with them, driving them into a corner of the cage, standing on them and tearing out their feathers, striking them on the head, munching their wings, &c., &c., till I was obliged to interfere; and even if called to, the aggressor would only turn up a malicious eye to me for a moment, and renew his outrage as before. They are a hardy, vigorous bird. In the month of October, about the time of their first arrival, I shot a male, rich in plumage, and plump in flesh, but which wanted one leg, that had been taken off a little above the knee; the wound had healed so completely, and was covered with so thick a skin, that it seemed as though it had been so for years. Whether this mutilation was occasioned by a shot, or in party quarrels of its own, I could not determine; but our invalid seemed to have used his stump either in hopping or resting, for it had all the appearance of having been brought in frequent contact with other bodies harder than itself.

This bird is a striking example of the truth of what I have frequently repeated in this work, that in many instances the same bird has been more than once described by the same person as a different species; for it is a fact which time will establish, that the Crimson-headed Finch of Pennant and Latham, the Purple Finch of the same and other naturalists, the Hemp-bird of Bartram, and the *Fringilla rosea* of Pallas, are one and the same, viz., the Purple Finch, the subject of the present article.

The Purple Finch is six inches in length and nine in extent; head, neck, back, breast, rump, and tail coverts, dark crimson, deepest on the head and chin, and lightest on the lower part of the breast; the back is streaked with dusky; the wings and tail are also dusky black, edged with reddish; the latter a good deal forked; round the base of the bill the recumbent feathers are of a light clay or cream color; belly and vent white; sides under the wings streaked with dull reddish; legs a dirty purplish flesh color; bill short, strong, conical, and of a dusky horn color; iris dark hazel; the feathers covering the ears are more dusky red than the other parts of the head. This is the male, when arrived at its full colors. The female is nearly of the same size, of a brown olive or flaxen color, streaked with dusky black; the head seamed with lateral lines of whitish; above and below the hind part of the ear feathers, are two streaks of white; the breast is whitish, streaked with a light flax color; tail and wings as in the male, only both edged with dull brown instead of red; belly and vent white. This is also the

color of the young during the first, and to at least the end of the second, season, when the males begin to become lighter yellowish, which gradually brightens to crimson; the female always retains nearly the same appearance. The young male bird of the first year may be distinguished from the female by the tail of the former being edged with olive green, that of the latter with brown. A male of one of these birds which I kept for some time, changed in the month of October, from red to greenish yellow, but died before it recovered its former color.

FRINGILLA PURPUREA.

PURPLE FINCH.

[Plate XLII. Fig. 3, Male in winter plumage.]

THIS bird is represented as he appears previous to receiving his crimson plumage, and also when moulting. By recurring to Pl. VII., fig. 4, which exhibits him in his full dress, the great difference of color will be observed to which this species is annually subject.

It is matter of doubt with me whether this species ought not to be classed with *Loxia*; the great thickness of the bill, and similarity that prevails between this and the Pine Grosbeak, almost induced me to adopt it into that class. But respect for other authorities has prevented me from making this alteration.

When these birds are taken in their crimson dress, and kept in a cage till they moult their feathers, they uniformly change to their present appearance, and sometimes never after receive their red color. They are also subject, if well fed, to become so fat as literally to die of corpulency, of which I have seen several instances; being at these times subject to something resembling apoplexy, from which they sometimes recover in a few minutes, but oftener expire in the same space of time.

The female is entirely without the red, and differs from the present only in having less yellow about her.

These birds regularly arrive from the north, where they breed, in September; and visit us from the south again early in April, feeding on the cherry blossoms as soon as they appear.

The individual figured in the plate measured six inches and a quarter in length, and ten inches in extent; the bill was horn colored; upper parts of the plumage brown olive strongly tinged with yellow, particularly on the rump, where it was brownish yellow; from above the eye, backwards, passed a streak of white, and another more irregular one

from the lower mandible; feathers of the crown narrow, rather long, and generally erected, but not so as to form a crest; nostrils and base of the bill covered with reflected brownish hairs; eye dark hazel; wings and tail dark blackish brown, edged with olive; first and second row of coverts tipped with pale yellow; chin white; breast pale cream, marked with pointed spots of deep olive brown; belly and vent white; legs brown. This bird, with several others marked nearly in the same manner, was shot, April twenty-fifth, while engaged in eating the buds from the beech tree.

SPECIES III. *FRINGILLA PUSILLA*.

FIELD SPARROW.

[Plate XVI. Fig. 2.]

Passer agrestis, BARTRAM, p. 291.

THIS is the smallest of all our Sparrows, and in Pennsylvania is generally migratory. It arrives early in April, frequents dry fields covered with long grass, builds a small nest on the ground, generally at the foot of a briar, lines it with horse-hair; lays six eggs so thickly sprinkled with ferruginous as to appear altogether of that tint; and raises two, and often three, broods in a season. It is more frequently found in the middle of fields and orchards than any of the other species, which usually lurk along hedge rows. It has no song; but a kind of chirrupping not much different from the chirpings of a cricket. Towards fall they assemble in loose flocks in orchards and corn fields, in search of the seeds of various rank weeds; and are then very numerous. As the weather becomes severe, with deep snow, they disappear. In the lower parts of North and South Carolina I found this species in multitudes in the months of January and February. When disturbed they take to the bushes, clustering so close together that a dozen may easily be shot at a time. I continued to see them equally numerous through the whole lower parts of Georgia; from whence, according to Mr. Abbot, they all disappear early in the spring.

None of our birds have been more imperfectly described than that family of the Finch tribe usually called Sparrows. They have been considered as too insignificant for particular notice, yet they possess distinct characters, and some of them peculiarities, well worthy of notice. They are innocent in their habits, subsisting chiefly on the small seeds of wild plants, and seldom injuring the property of the farmer. In the dreary season of winter some of them enliven the prospect by hopping

familiarly about our doors, humble pensioners on the sweepings of the threshold.

The present species has never before, to my knowledge, been figured. It is five inches and a quarter long, and eight inches broad; bill and legs a reddish cinnamon color; upper part of the head deep chestnut, divided by a slight streak of drab widening as it goes back; cheeks, line over the eye, breast and sides under the wings a brownish clay color, lightest on the chin, and darkest on the ear feathers; a small streak of brown at the lower angle of the bill; back streaked with black, drab, and bright bay, the latter being generally centered with the former; rump dark drab, or cinereous; wings dusky black, the primaries edged with whitish, the secondaries bordered with bright bay; greater wing-coverts black, edged and broadly tipped with brownish white; tail dusky black, edged with clay color: male and female nearly alike in plumage; the chestnut on the crown of the male rather brighter.

SPECIES IV. *FRINGILLA ARBOREA*.*

TREE SPARROW.

[Plate XVI. Fig. 3.]

Le Soulciet, BUFF. III., 500.—*Moineau de Canada*, BRISS. III., 101.—*Pl. Enl.* 223.
—LATH. II., 252.—EDW. 269.—*Arct. Zool.* p. 373, No. 246.

THIS Sparrow is a native of the north, who takes up his winter quarters in Pennsylvania, and most of the Northern States, as well as several of the Southern ones. He arrives here about the beginning of November; and leaves us again early in April; associates in flocks with the Snow-birds, frequents sheltered hollows, thickets, and hedge-rows, near springs of water; and has a low warbling note, scarcely audible at the distance of twenty or thirty yards. If disturbed takes to trees, like the White-throated Sparrow, but contrary to the habit of most of the others, who are inclined rather to dive into thickets. Edwards erroneously represented this as the female of the Mountain Sparrow; but that judicious and excellent naturalist, Pennant, has given a more correct account of it, and informs us, that it inhabits the country bordering on Hudson's Bay during summer; comes to Severn settlement in May;

* The specific name, *Canadensis*, given by BRISSON and adopted by LATHAM, must be restored to this bird. The following synonymes may be quoted. *Fringilla monticola*, GMEL. *Syst.* I., p. 912.—*Passer Canadensis*, BRISS. III., p. 102, 15.—Id. 8vo. I., p. 335.—*Mountain Finch*, LATH. *Syn.* III., p. 265, 16. *Fringilla Canadensis*, LATH. *Ind. Orn.* I., p. 434.

advances farther north to breed; and returns in autumn on its way southward. It also visits Newfoundland.*

By some of our own naturalists this species has been confounded with the Chipping Sparrow (fig. 5), which it very much resembles; but is larger and handsomer; and is never found with us in summer. The former departs for the south about the same time that the latter arrives from the north; and from this circumstance, and their general resemblance, has arisen the mistake.

The Tree Sparrow is six inches and a half long, and nine and a half in extent; the whole upper part of the head is of a bright reddish chestnut, sometimes slightly skirted with gray; from the nostrils over the eye passes a white strip fading into pale ash as it extends back; sides of the neck, chin and breast very pale ash; the centre of the breast marked with an obscure spot of dark brown; from the lower angle of the bill proceeds a slight streak of chestnut; sides under the wings pale brown; back handsomely streaked with pale drab, bright bay and black; lower part of the back and rump brownish drab; lesser wing coverts black, edged with pale ash; wings black, broadly edged with bright bay; the first and second row of coverts tipped with pure white; tail black, forked, and exteriorly edged with dull white; belly and vent brownish white; bill black above, yellow below; legs a brownish clay color; feet black. The female is about half an inch shorter; the chestnut or bright bay on the wings, back and crown is less brilliant; and the white on the coverts narrower, and not so pure. These are all the differences I can perceive.

* *Arct. Zool.* Vol. II., p. 373.

SPECIES V. *FRINGILLA MELODIA.*

SONG SPARROW.

[Plate XVI. Fig. 4.]

Fasciated Finch? *Arct. Zool.* p. 375, No. 252.

So nearly do many species of our Sparrows approximate to each other in plumage, and so imperfectly have they been taken notice of, that it is absolutely impossible to say, with certainty, whether the present species has ever been described or not. And yet, of all our Sparrows, this is the most numerous, the most generally diffused over the United States, and by far the earliest, sweetest, and most lasting songster. It may be said to be partially migratory, many passing to the south in the month of November; and many of them still remaining with us, in low close sheltered meadows and swamps, during the whole of winter. It is the first singing bird in spring, taking precedence even of the Pewee and Blue-bird. Its song continues occasionally during the whole summer and fall; and is sometimes heard even in the depth of winter. The notes, or chant, are short but very sweet, resembling the beginning of the Canary's song, and frequently repeated, generally from the branches of a bush or small tree, where it sits chanting for an hour together. It is fond of frequenting the borders of rivers, meadows, swamps, and such like watery places; and if wounded, and unable to fly, will readily take to the water, and swim with considerable rapidity. In the great cypress swamps of the Southern States in the depth of winter, I observed multitudes of these birds mixed with several other species; for these places appear to be the grand winter rendezvous of almost all our Sparrows. I have found this bird in every district of the United States from Canada to the southern boundaries of Georgia; but Mr. Abbot informs me, that he knows of only one or two species that remain in that part of Georgia during the summer.

The Song Sparrow builds in the ground, under a tuft of grass; the nest is formed of fine dry grass, and lined with horse hair; the eggs are four or five, thickly marked with spots of reddish brown on a white, sometimes bluish white ground; if not interrupted, he raises three broods in the season. I have found his nest with young as early as the 26th of April, and as late as the 12th of August. What is singular, the same bird often fixes his nest in a cedar tree, five or six feet from

the ground. Supposing this to have been a *variety*, or different species, I have examined the bird, nest and eggs, with particular care, several times; but found no difference. I have observed the same accidental habit in the Red-winged Blackbird, which sometimes builds among the grass, as well as on alder bushes.

This species is six inches and a half long, and eight and a half in extent; upper part of the head dark chestnut, divided, laterally, by a line of pale dirty white; spot at each nostril yellow ochre; line over the eye inclining to ash; chin white; streak from the lower mandible, slit of the mouth, and posterior angle of the eye, dark chestnut; breast and sides under the wings thickly marked with long pointed spots of dark chestnut, centered with black, and running in chains; belly white; vent yellow ochre, streaked with brown; back streaked with black, bay, and pale ochre; tail brown, rounded at the end, the two middle feathers streaked down their centres with black; legs flesh colored; wing coverts black, broadly edged with bay, and tipped with yellowish white; wings dark brown. The female is scarcely distinguishable by its plumage from the male. The bill in both horn colored.

SPECIES VI. *FRINGILLA SOCIALIS*.

CHIPPING SPARROW.

[Plate XVI. Fig. 5.]

Passer domesticus, the little House Sparrow, or Chipping-bird, BARTRAM, p. 291.

THIS species, though destitute of the musical talents of the former, is perhaps more generally known, because more familiar and even domestic. He inhabits, during summer, the city, in common with man, building in the branches of the trees with which our streets and gardens are ornamented; and gleaning up crumbs from our yards, and even our doors, to feed his more advanced young with. I have known one of these birds attend regularly every day, during the whole summer, while the family were at dinner, under a piazza, fronting the garden, and pick up the crumbs that were thrown to him. This sociable habit, which continues chiefly during the summer, is a singular characteristic. Towards the end of summer he takes to the fields, and hedges, until the weather becomes severe, with snow, when he departs for the south.

The Chipping-bird builds his nest most commonly in a cedar bush, and lines it thickly with cow-hair. The female lays four or five eggs of a light blue color, with a few dots of purplish black near the great end.

This species may easily be distinguished from the four preceding ones, by his *black bill and frontlet*, and by his familiarity in summer; yet, in the month of August and September, when they moult, the black on the front and partially on the bill disappears. The young are also without the black during the first season.

The Chipping Sparrow is five inches and a quarter long, and eight inches in extent; frontlet black; chin and line over the eye whitish; crown chestnut; breast and sides of the neck pale ash; bill in winter black, in summer the lower mandible flesh colored; rump dark ash; belly and vent white; back variegated with black and bright bay; wings black, broadly edged with bright chestnut; tail dusky, forked, and slightly edged with pale ochre; legs and feet a pale flesh color. The female differs in having less black on the frontlet, and the bay duller. Both lose the black front in moulting.

SPECIES VII. *FRINGILLA HUDSONIA*.*

SNOW-BIRD.

[Plate XVI. Fig. 6.]

Fringilla Hudsonia, TURTON, *Syst.* 1., 568.—*Emberiza hyemalis*, *Id.* 531.—LATH. 1., 66.—CATESBY, 1., 36.—*Arct. Zool.* p. 359, No. 223.—*Passer nivalis*, BARTRAM, p. 291.

THIS well known species, small and insignificant as it may appear, is by far the most numerous, as well as the most extensively disseminated, of all the feathered tribes that visit us from the frozen regions of the north. Their migrations extending from the Arctic Circle, and probably beyond it, to the shores of the Gulf of Mexico, spreading over the whole breadth of the United States from the Atlantic Ocean to Louisiana; how much farther westward I am unable to say. About the twentieth of October they make their first appearance in those parts of Pennsylvania east of the Alleghany Mountains. At first they are most generally seen on the borders of woods among the falling and decayed leaves, in loose flocks of thirty or forty together, always taking to the trees when disturbed. As the weather sets in colder they approach nearer the farm-house and villages; and on the appearance of what is usually called *falling weather*, assemble in larger flocks, and seem doubly diligent in searching for food. This increased activity is generally a sure prognostic of a storm. When deep snow covers the ground

* *Fringilla hyemalis*, LINN. *Syst. Ed.* 10, 1, p. 183, 30.

they become almost half domesticated. They collect about the barn, stables, and other outhouses, spread over the yard, and even round the steps of the door; not only in the country and villages, but in the heart of our large cities; crowding around the threshold early in the morning, gleaning up the crumbs; appearing very lively and familiar. They have also recourse, at this severe season, when the face of the earth is shut up from them, to the seeds of many kinds of weeds that still rise above the snow, in corners of fields, and low sheltered situations along the borders of creeks and fences, where they associate with several species of Sparrows, particularly those represented on the same plate. They are at this time easily caught with almost any kind of traps; are generally fat, and, it is said, are excellent eating.

I cannot but consider this bird as the most numerous of its tribe of any within the United States. From the northern parts of the district of Maine, to the Ogechee river in Georgia, a distance by the circuitous route in which I travelled of more than 1800 miles, I never passed a day, and scarcely a mile, without seeing numbers of these birds, and frequently large flocks of several thousands. Other travellers, with whom I conversed, who had come from Lexington in Kentucky, through Virginia, also declared that they found these birds numerous along the whole road. It should be observed, that the road sides are their favorite haunts, where many rank weeds that grow along the fences furnish them with food, and the road with gravel. In the vicinity of places where they were most numerous, I observed the small Hawk, represented in the same plate, and several others of his tribe, watching their opportunity, or hovering cautiously around, making an occasional sweep among them, and retiring to the bare branches of an old cypress to feed on their victim. In the month of April, when the weather begins to be warm, they are observed to retreat to the woods; and to prefer the shaded sides of hills and thickets; at which time the males warble out a few very low sweet notes; and are almost perpetually pursuing and fighting with each other. About the twentieth of April they take their leave of our humble regions, and retire to the north, and to the high ranges of the Alleghany to build their nests, and rear their young. In some of those ranges, in the interior of Virginia, and northward about the waters of the west branch of the Susquehanna, they breed in great numbers. The nest is fixed in the ground or among the grass, sometimes several being within a small distance of each other. According to the observations of the gentlemen residing at Hudson's Bay factory, they arrive there about the beginning of June, stay a week or two, and proceed farther north to breed. They return to that settlement in the autumn on their way to the south.

In some parts of New England I found the opinion pretty general, that the Snow-bird in summer is transformed into the small Chipping

Sparrow, which we find so common in that season, and which is represented in the same plate. I had convinced a gentleman of New York of his mistake in this matter, by taking him to the house of a Mr. Gautier, there, who amuses himself by keeping a great number of native as well as foreign birds. This was in the month of July, and the Snow-bird appeared there in the same colored plumage he usually has. Several individuals of the Chipping Sparrow were also in the same apartment. The evidence was therefore irresistible; but as I had not the same proofs to offer to the eye in New England, I had not the same success.

There must be something in the temperature of the blood or constitution of this bird which unfits it for residing, during summer, in the lower parts of the United States; as the country here abounds with a great variety of food, of which, during its stay here, it appears to be remarkably fond. Or, perhaps, its habit of associating in such numbers to breed, and building its nest with so little precaution, may, to insure its safety, require a solitary region, far from the intruding footsteps of man.

The Snow-bird is six inches long, and nine in extent, the head, neck, and upper parts of the breast, body and wings, are of a deep slate color; the plumage sometimes skirted with brown, which is the color of the young birds; the lower parts of the breast, the whole belly and vent, are pure white; the three secondary quill feathers next the body are edged with brown, the primaries with white; the tail is dusky slate, a little forked, the two exterior feathers wholly white, which are flitted out as it flies, and appear then very prominent; the bill and legs are of a reddish flesh color; the eye bluish black. The female differs from the male in being considerably more brown. In the depth of winter the slate color of the male becomes more deep and much purer, the brown disappearing nearly altogether.

SPECIES VIII. *FRINGILLA PINUS*.

PINE FINCH.

[Plate XVII. Fig. 1.]

THIS little northern stranger visits us in the month of November, and seeks the seeds of the black alder, on the borders of swamps, creeks and rivulets. As the weather becomes more severe, and the seeds of the *Pinus canadensis* are fully ripe, these birds collect in larger flocks and take up their residence, almost exclusively, among these trees. In the gardens of Bush-hill, in the neighborhood of Philadelphia, a flock of two or three hundred of these birds have regularly wintered many years; where a noble avenue of pine trees, and walks covered with fine white gravel, furnish them with abundance through the winter. Early in March they disappear, either to the north, or to the pine woods that cover many lesser ranges of the Alleghany. While here they are often so tame as to allow you to walk within a few yards of the spot where a whole flock of them are sitting. They flutter among the branches, frequently hanging by the cones, and uttering a note almost exactly like that of the Goldfinch (*F. tristis*). I have not a doubt but this bird appears in a richer dress in summer in those places where he breeds, as he has so very great a resemblance to the bird above mentioned, with whose changes we are well acquainted.

The length of this species is four inches, breadth eight inches; upper part of the head, the neck and back, a dark flaxen color, streaked with black; wings black, marked with two rows of dull white or cream color; whole wing quills, under the coverts, rich yellow, appearing even when the wings are shut; rump and tail coverts yellowish, streaked with dark brown; tail feathers rich yellow from the roots half way to the tips, except the two middle ones, which are blackish brown, slightly edged with yellow; sides under the wings of a cream color, with long streaks of black; breast a light flaxen color, with small streaks or pointed spots of black; legs purplish brown; bill a dull horn color; eyes hazel. The female was scarcely distinguishable by its plumage from the male. The New York Siskin of Pennant* appears to be only the Yellow-bird (*Fringilla tristis*) in his winter dress.

* Aret. Zool. p. 372. No. 243.

This bird has a still greater resemblance to the Siskin of Europe (*F. spinus*), and may perhaps be the species described by Turton,* as the Black Mexican Siskin, which he says is varied above with black and yellowish, and is white beneath, and which is also said to sing finely. This change from flaxen to yellow is observable in the Goldfinch; and no other two birds of our country resemble each other more than these do in their winter dresses. Should these surmises be found correct, a figure of this bird in his summer dress shall appear in some future part of our work.

SPECIES IX. *FRINGILLA ALBICOLLIS*.†

WHITE-THROATED SPARROW

[Plate XXII. Fig. 2.]

Fringilla fusca, BARTRAM, p. 291.—LATH. II., 272.—EDWARDS, 304.—*Arct. Zool.* p. 373, No. 248.

THIS is the largest as well as handsomest of all our Sparrows. It winters with the preceding species and several others in most of the states south of New England. From Connecticut to Savannah I found these birds numerous, particularly in the neighborhood of the Roanoke river, and among the rice plantations. In summer they retire to the higher inland parts of the country, and also farther north to breed. According to Pennant they are also found at that season in Newfoundland. During their residence here in winter, they collect together in flocks, always preferring the borders of swampy thickets, creeks, and mill-ponds, skirted with alder bushes and long rank weeds, the seeds of which form their principal food. Early in spring, a little before they leave us, they have a few remarkably sweet and clear notes, generally in the morning a little after sunrise. About the twentieth of April they disappear, and we see no more of them till the beginning or second week of October, when they again return; part to pass the winter with us; and part on their route farther south.

The length of the White-throated Sparrow is six inches and a half, breadth nine inches; the upper part of the back and the lesser wing coverts are beautifully variegated with black, bay, ash and light brown; a stripe of white passes from the base of the upper mandible to the hind

* Turton, vol. I., p. 550.

† *Fringilla pennsylvanica*, LATH. *Ind. Orn.* I., 445.—*Passer pennsylvanicus* BRISS. app. p. 77.—Id. 8vo. I., p. 367.

head; this is bordered on each side with a stripe of black; below this again is another of white passing over each eye, and deepening into orange yellow between that and the nostril; this is again bordered by a stripe of black proceeding from the hind part of the eye; breast ash; chin, belly, and vent white; tail somewhat wedged; legs flesh colored; bill a bluish horn color; eye hazel. In the female the white stripe on the crown is a light drab; the breast not so dark; the chin less pure; and the line of yellow before the eye scarce half as long as in the male. All the parts that are white in the male are in the female of a light drab color.

SPECIES X. *FRINGILLA PALUSTRIS*.

SWAMP SPARROW.

[Plate XXII. Fig. 1.]

Passer palustris, BARTRAM, p. 291.

THE history of this obscure and humble species is short and uninteresting. Unknown or overlooked by the naturalists of Europe, it is now for the first time introduced to the notice of the world. It is one of our summer visitants, arriving in Pennsylvania early in April, frequenting low grounds, and river courses; rearing two, and sometimes three broods in a season; and returning to the south as the cold weather commences. The immense cypress swamps and extensive grassy flats of the Southern States, that border their numerous rivers, and the rich rice plantations abounding with their favorite seeds and sustenance, appear to be the general winter resort, and grand annual rendezvous, of this and all other species of Sparrow that remain with us during summer. From the river Trent, in North Carolina, to that of Savannah, and still farther south, I found this species very numerous; not flying in flocks, but skulking among the canes, reeds, and grass, seeming shy and timorous, and more attached to the water than any other of their tribe. In the month of April numbers pass through Pennsylvania to the northward, which I conjecture from the circumstance of finding them at that season in particular parts of the woods, where during the rest of the year they are not to be seen. The few that remain frequent the swamps, and reedy borders of our creeks and rivers. They form their nest in the ground, sometimes in a tussock of rank grass, surrounded by water, and lay four eggs of a dirty white, spotted with rufous. So late as the fifteenth of August, I have seen them feeding their young that were scarcely able to fly. Their prin-

cipal food is grass seeds, wild oats, and insects. They have no song; are distinguished by a single chip or *cheep*, uttered in a rather hoarser tone than that of the Song Sparrow; flirt the tail as they fly; seldom or never take to the trees, but skulk from one low bush or swampy thicket to another.

The Swamp Sparrow is five inches and a half long, and seven inches and a half in extent; the back of the neck and front are black; crown bright bay, bordered with black; a spot of yellowish white between the eye and nostril; sides of the neck and whole breast dark ash; chin white; a streak of black proceeds from the lower mandible, and another from the posterior angle of the eye; back black, slightly skirted with bay; greater coverts also black, edged with bay; wings and tail plain brown; belly and vent brownish white; bill dusky above, bluish below; eyes hazel; legs brown; claws strong and sharp for climbing the reeds. The female wants the bay on the crown, or has it indistinctly; over the eye is a line of dull white.

SPECIES XI. *FRINGILLA MARITIMA*.

SEA-SIDE FINCH.

[Plate XXXIV. Fig. 2.]

OF this bird I can find no description. It inhabits the low, rush-covered sea islands along our Atlantic coast, where I first found it; keeping almost continually within the boundaries of tide water, except when long and violent east or north-easterly storms, with high tides, compel it to seek the shore. On these occasions it courses along the margin, and among the holes and interstices of the weeds and seawrack, with a rapidity equalled only by the nimblest of our Sandpipers, and very much in their manner. At these times also it roosts on the ground, and runs about after dusk.

This species derives its whole subsistence from the sea. I examined a great number of individuals by dissection, and found their stomachs universally filled with fragments of shrimps, minute shell fish, and broken limbs of small sea crabs. Its flesh, also, as was to be expected, tasted of fish, or was what was usually termed *sedgy*. Amidst the recesses of these wet sea marshes it seeks the rankest growth of grass, and sea weed, and climbs along the stalks of the rushes with as much dexterity as it runs along the ground, which is rather a singular circumstance, most of our climbers being rather awkward at running.

The Sea-side Finch is six inches and a quarter long, and eight and a

quarter in extent; chin pure white, bordered on each side by a stripe of dark ash, proceeding from each base of the lower mandible, above that is another slight streak of white; from the nostril over the eye extends another streak which immediately over the lores is rich yellow, bordered above with white, and ending in yellow olive; crown brownish olive, divided laterally by a stripe of slate blue, or fine light ash; breast ash, streaked with buff; belly white; vent buff-colored, and streaked with black; upper parts of the back, wings and tail a yellowish brown olive, intermixed with very pale blue; greater and lesser coverts tipped with dull white; edge of the bend of the wing rich yellow; primaries edged with the same immediately below their coverts; tail cuneiform, olive brown, centered with black; bill dusky above, pale blue below, longer than is usual with Finches; legs and feet a pale bluish white; irides hazel. Male and female nearly alike in color.

SPECIES XII. *FRINGILLA CAUDACUTA*.

SHARP-TAILED FINCH.

[Plate XXXIV. Fig. 3.]

Sharp-tailed Oriole, LATH. *Gen. Syn.* II., p. 448, pl. XVII.

A BIRD of this denomination is described by Turton, *Syst.* p. 562, but which by no means agrees with the present. This, however, may be the fault of the describer, as it is said to be a bird of Georgia; unwilling, therefore, to multiply names unnecessarily, I have adopted his appellation. In some future part of the work I shall settle this matter with more precision.

This new (as I apprehend it) and beautiful species as an associate of the former, inhabits the same places, lives on the same food; and resembles it so much in manners, that but for their dissimilarity in some essential particulars, I would be disposed to consider them as the same in a different state of plumage. They are much less numerous than the preceding, and do not run with equal celerity.

The Sharp-tailed Finch is five inches and a quarter long, and seven inches and a quarter in extent; bill dusky; auriculars ash; from the bill over the eye, and also below it, run two broad stripes of brownish orange; chin whitish; breast pale buff, marked with small pointed spots of black; belly white; vent reddish buff; from the base of the upper mandible a broad stripe of pale ash runs along the crown and hind head, bordered on each side by one of blackish brown; back a yellowish brown

olive, some of the feathers curiously edged with semicircles of white; sides under the wings buff, spotted with black; wing coverts and tertials black, broadly edged with light reddish buff; tail cuneiform, short; all the feathers sharp pointed; legs a yellow clay color; irides hazel.

I examined many of these birds, and found but little difference in the color and markings of their plumage.

Since writing the above, I have become convinced that the bird described by Mr. Latham, under the name of Sharp-tailed Oriole (*Oriolus caudacutus*), is the present species. Latham states, that his description and figure were taken from a specimen deposited in Mrs. Blackburn's collection, and that it came from New York.

SPECIES XIII. *FRINGILLA SAVANNA*.

SAVANNAH FINCH.

[Plate XXXIV. Fig. 4, Male.]

THE figure of this delicately marked Sparrow was drawn from a very beautiful male, and is a faithful representation of the original.

The length is five and a half inches, extent eight and a half; bill pale brown; eyebrows Naples yellow; breast and whole lower parts pure white, the former marked with small pointed spots of brown; upper parts a pale whitish drab, mottled with reddish brown; wing-coverts edged and tipped with white; tertials black, edged with white and bay; legs pale clay; ear feathers tinged with Naples yellow. The female and young males are less and much darker.

This is probably the most timid of all our Sparrows. In winter it frequents the sea shores; but as spring approaches migrates to the interior, as I have lately discovered, building its nest in the grass nearly in the same form, though with fewer materials, as that of the Bay-winged Bunting. On the twenty-third of May I found one of these at the root of a clump of rushes in a grass field, with three young, nearly ready to fly. The female counterfeited lameness, spreading her wings and tail, and using many affectionate stratagems to allure me from the place. The eggs I have never seen.

FRINGILLA SAVANNA.
SAVANNAH SPARROW.

[Plate XXII. Fig. 3, Female.]

THIS new species is an inhabitant of the low countries on the Atlantic coast, from Savannah, where I first discovered it, to the state of New York; and is generally resident in these places, though rarely found inland, or far from the sea shore. The drawing of this bird was in the hands of the engraver before I was aware that the male was so much its superior in beauty of markings and in general colors. With the representation of the male are given particulars of their nest, eggs, and manners. I have found these birds numerous on the sea shore, in the state of New Jersey, particularly near Great Egg Harbor. A pair of these I presented to Mr. Peale of this city, in whose noble collection they now occupy a place.

The female of the Savannah Sparrow is five inches and a half long, and eight and a half in extent; the plumage of the back is mottled with black, bright bay and whitish; chin white; breast marked with pointed spots of black, edged with bay, running in chains from each base of the lower mandible; sides touched with long streaks of the same; temples marked with a spot of delicate yellow; ear feathers slightly tinged with the same; belly white, and a little streaked; inside of the shoulders and lining of the wing pale yellowish; first and second rows of wing coverts tipped with whitish; secondaries next the body pointed and very black, edged also with bay; tail slightly forked, and without any white feathers; legs pale flesh color; hind claw pretty long.

The very slight distinctions of color which nature has drawn between many distinct species of this family of Finches, render these minute and tedious descriptions absolutely necessary, that the particular species may be precisely discriminated.

SPECIES XIV. *FRINGILLA FERRUGINEA*.*

FOX-COLORED SPARROW.

[Plate XXII. Fig. 4.]

Rusty Bunting, *Arct. Zool.* p. 364, No. 231. Ib. 233.—*Ferruginous Finch*, Ib. 375, No. 251.—*Fringilla rufa*, BARTRAM, p. 291.

THIS plump and pretty species arrives in Pennsylvania from the north about the twentieth of October; frequents low sheltered thickets; associates in little flocks of ten or twelve, and is almost continually scraping the ground, and rustling among the fallen leaves. I found this bird numerous in November among the rich cultivated flats that border the river Connecticut; and was informed that it leaves those places in spring. I also found it in the northern parts of the state of Vermont. Along the borders of the great reed and cypress swamps of Virginia, and North and South Carolina, as well as around the rice plantations, I observed this bird very frequently. They also inhabit Newfoundland.† They are rather of a solitary nature, seldom feeding in the open fields; but generally under thickets, or among tall rank weeds on the edges of fields. They sometimes associate with the Snow-bird, but more generally keep by themselves. Their manners very much resemble those of the Red-eyed Bunting (Plate X., fig. 4); they are silent, tame, and unsuspicious. They have generally no other note while here than a *shep, shep*; yet I suspect they have some song in the places where they breed; for I once heard a single one, a little before the time they leave us, warble out a few very sweet low notes.

The Fox-colored Sparrow is six inches long, and nine and a quarter broad; the upper part of the head and neck is cinereous, edged with rust color; back handsomely mottled with reddish brown and cinereous; wings and tail bright ferruginous; the primaries dusky within and at the tips, the first and second rows of coverts, tipped with white; breast and belly white; the former, as well as the ear feathers, marked with large blotches of bright bay, or reddish brown, and the beginning of the belly with little arrow-shaped spots of black; the tail coverts and tail

* *Fringilla iliaca*, MERREM, *Beytr.* II., p. 40, t. 10.—GMEL. I., p. 923.—LATH. *Ind. Orn.* I., p. 438.—*Fringilla ferruginea*, GMEL. *Syst.* I., p. 921.—LATH. *Syn.* III., p. 272, 31.—*Ibid. Ind. Orn.* I., p. 445.

† PENNANT.

are a bright fox color; the legs and feet a dirty brownish white, or clay color, and very strong; the bill is strong, dusky above and yellow below; iris of the eye hazel. The chief difference in the female is that the wings are not of so bright a bay, inclining more to a drab; yet this is scarcely observable, unless by a comparison of the two together. They are generally very fat, live on grass seeds, eggs of insects, and gravel.

SPECIES XV. *FRINGILLA LINARIA*.

LESSER RED-POLL.

[Plate XXX. Fig. 4.]

LATH. II., 305.—*Arct. Zool.* 379.—*Le Sizeren*, BUFF. IV., 216.

THIS bird corresponds so exactly in size, figure and color of plumage with that of Europe, of the same name, as to place their identity beyond a doubt. They inhabit during summer the most northern parts of Canada and still more remote northern countries, from whence they migrate at the commencement of winter. They appear in the Genesee country with the first deep snow, and on that account are usually called by the title of Snow-birds. As the female is destitute of the crimson on the breast and forehead, and the young birds do not receive that ornament till the succeeding spring, such a small proportion of the individuals that form these flocks are marked with red, as to induce a general belief among the inhabitants of those parts that they are two different kinds associated together. Flocks of these birds have been occasionally seen in severe winters in the neighborhood of Philadelphia. They seem particularly fond of the seeds of the common alder, and hang head downwards while feeding, in the manner of the Yellow-bird. They seem extremely unsuspicious at such times, and will allow a very near approach without betraying any symptoms of alarm.

The specimen represented in the plate was shot, with several others of both sexes, in Seneca county, between the Seneca and Cayuga lakes. Some individuals were occasionally heard to chant a few interrupted notes, but no satisfactory account can be given of their powers of song.

This species extends throughout the whole northern parts of Europe, is likewise found in the remote wilds of Russia; was seen by Steller in Kamtschatka; and probably inhabits corresponding climates round the whole habitable parts of the northern hemisphere. In the highlands of Scotland they are common, building often on the tops of the heath, sometimes in a low furze bush, like the common Linnet; and sometimes on the ground. The nest is formed of light stalks of dried grass, inter-

mixed with tufts of wool, and warmly lined with feathers. The eggs are usually four, white, sprinkled with specks of reddish.

NOTE.

Fringilla Linaria, GMEL. *Syst.* i., p. 917, 29. *F. flavirostris*, Id. p. 915, 27.—LATH. *Ind. Orn.* p. 438. No. 16, p. 458, No. 83.—*Le Cabaret*, BUFF. *Ois.* iv., p. 76. *Pl. Enl.* 485.—BEWICK, I., p. 191.—*Fauna Orcadensis*, p. 64, 3.—*Gros-bee Sizerin*, TEMM. *Man. d'Orn.*, p. 383.

CONTRARY to the usual practice of Wilson, he omitted to furnish a particular description of this species, accompanying its figure. But this supplementary notice would not have been considered necessary, if our author had not fallen into a mistake respecting the markings of the female, and the young male; the former of which he describes as *destitute of the crimson on the forehead*; and the latter *not receiving that ornament till the succeeding spring*. When Wilson procured his specimens, it was in the autumn, previously to their receiving their perfect winter dress; and he was never afterwards aware of his error, owing to the circumstance of these birds seldom appearing in the neighborhood of Philadelphia. Considerable flocks of them, however, having visited us in the winter of 1813-14, we were enabled to procure several fine specimens of both sexes, from the most perfect of which we took the following description. We will add, that having had the good fortune to observe a flock, consisting of nearly a hundred, within a few feet of them, as they were busily engaged in picking the seeds of some garden plants, we can with confidence assert that they, *all* had the red patch on the crown; but there were very few which had the red rump and breast; the young males, it is probable, are not thus marked until the spring; and the females are destitute of that ornament altogether.

The Lesser Red-poll is five inches and a quarter in length, and eight inches and a half in breadth; the bill is pale yellow, ridged above and below with dark horn color, the upper mandible projecting somewhat over the lower at the tip; irides dark hazel; the nostrils are covered with recumbent, hair-like feathers of drab color; a line of brown extends from the eyes, and encircles the base of the bill, forming in some specimens a patch below the chin; the crown is ornamented with a pretty large spot of deep shining crimson; the throat, breast and rump, stained with the same, but of a more delicate red; the belly is of a very pale ash, or dull white; the sides are streaked with dusky; the whole upper parts are brown or dusky, the plumage edged with yellowish white and pale ash, the latter most predominant near the rump; wings and tail dusky, the latter is forked, and consists of twelve feathers edged with white; the primaries are very slightly tipped and edged with white; the secondaries more so; the greater and lesser coverts are also tipped with

white, forming the bars across the wings; thighs cinereous, legs and feet black; hind claw considerably hooked, and longer than the rest.

The female is less bright in her plumage above; and her under parts incline more to an ash color; the spot on her crown is of a golden crimson, or reddish saffron.

One male specimen was considerably larger than the rest; it measured five inches and three quarters in length, and nine inches and a quarter in breadth; the breast and rump were tawny; its claws were uncommonly long, the hind one measured nearly three-eighths of an inch; and the spot on the crown was of a darker hue than that of the rest.

The call of this bird exactly resembles that of the *Fringilla tristis*, or common Yellow-bird of Pennsylvania.

The Red-polls linger in the neighborhood of Philadelphia until about the middle of April; but whither they retire for the business of incubation, we cannot determine.

In common with almost all our Finches, the Red-polls become very fat, and are then accounted delicious eating. During the winter above mentioned, many thousands of them were exposed to sale in the Philadelphia market, and were readily purchased by those epicures, whose love of variety permits no delicacy to escape them.

In America this species must breed far to the north, perhaps beyond the residence of man, as they are so tame and unsuspicious that one can openly approach to within five or six feet of them, while they are occupied in feeding. As a proof their rarity in Pennsylvania, I have not observed them since the early of the year 1814; they were then so common that they swarmed in the gardens of Philadelphia.—*G. Ord.*

SPECIES XVI. *FRINGILLA PASSERINA*.

YELLOW-WINGED SPARROW.

[Plate XXIV. Fig. 5.]

THIS small species is now for the first time introduced to the notice of the public. I can, however, say little towards illustrating its history, which, like that of many individuals of the human race, would be but a dull detail of humble obscurity. It inhabits the lower parts of New York and Pennsylvania; is very numerous on Staten Island, where I first observed it; and occurs also along the sea coast of New Jersey. But though it breeds in each of these places, it does not remain in any of them during the winter. It has a short, weak, interrupted chirrup, which it occasionally utters from the fences and tops of low bushes. Its nest is fixed on the ground, among the grass; is formed of loose dry grass, and lined with hair and fibrous roots of plants. The eggs are five, of a grayish white sprinkled with brown. On the first of August I found the female sitting.

I cannot say what extent of range this species has, having never met with it in the Southern States; though I have no doubt that it winters there with many others of its tribe. It is the scarcest of all our summer Sparrows. Its food consists principally of grass seeds, and the larvæ of insects, which it is almost continually in search of among the loose soil and on the surface, consequently it is more useful to the farmer than otherwise.

The length of this species is five inches, extent eight inches; upper part of the head blackish, divided by a slight line of white; hind head and neck above marked with short lateral touches of black and white; a line of yellow extends from above the eye to the nostril; cheeks plain brownish white; back streaked with black, brown, and pale ash; shoulders of the wings above and below, and lesser coverts olive yellow; greater wing coverts black, edged with pale ash; primaries light drab; tail the same, the feathers rather pointed at the ends, the outer ones white; breast plain yellowish white, or pale ochre, which distinguishes it from the Savannah Sparrow (Plate XXII., fig. 3); belly and vent white; three or four slight touches of dusky at the sides of the breast; legs flesh color; bill dusky above, pale bluish white below. The male and female are nearly alike in color.

SPECIES XVII. *FRINGILLA CYANEA*.

INDIGO-BIRD.

[Plate VI. Fig. 5.]

Tanagra cyanea, LINN. *Syst.* I., 315.—*Le Ministre*, BUFFON, IV., 96.—*Indigo Bunting*, ARCT. Zool. II., No. 235.—LATH. *Syn.* III., 205, 63.—*Blue Linnet*, EDW. 273.—*Linaria cyanea*, BARTRAM, p. 290.

THIS is another of those rich-plumaged tribes, that visit us in spring from the regions of the south. It arrives in Pennsylvania on the second week in May; and disappears about the middle of September. It is numerous in all the settled parts of the Middle and Eastern States; in the Carolinas and Georgia it is also abundant. Though Catesby says that it is only found at a great distance from the sea; yet round the city of New York, and in many places along the shores of New Jersey, I have met with them in plenty. I may also add, on the authority of Mr. William Bartram, that "they inhabit the continent and sea-coast islands, from Mexico to Nova Scotia, from the sea-coast west beyond the Apalachian and Cherokee Mountains."* They are also known in Mexico, where they probably winter. Its favorite haunts, while with us, are about gardens, fields of deep clover, the borders of woods, and road sides, where it is frequently seen perched on the fences. In its manners it is extremely active and neat; and a vigorous and pretty good songster. It mounts to the highest tops of a large tree, and chants for half an hour at a time. Its song is not one continued strain, but a repetition of short notes, commencing loud and rapid, and falling by almost imperceptible gradations for six or eight seconds, till they seem hardly articulate, as if the little minstrel were quite exhausted; and after a pause of half a minute or less, commences again as before. Some of our birds sing only in spring, and then chiefly in the morning, being comparatively mute during the heat of noon; but the Indigo-bird chants with as much animation under the meridian sun, in the month of July, as in the month of May; and continues his song, occasionally, to the middle or end of August. His usual note, when alarmed by an approach to his nest, is a sharp *chip*, like that of striking two hard pebbles smartly together.

* Travels, p. 299.

Notwithstanding the beauty of his plumage, the vivacity with which he sings, and the ease with which he can be reared and kept, the Indigo-bird is seldom seen domesticated. The few I have met with were taken in trap-cages; and such of any species rarely sing equal to those which have been reared by hand from the nest. There is one singularity which, as it cannot be well represented in the figure, may be mentioned here, viz., that in some certain lights his plumage appears of a rich sky-blue, and in others of a vivid verdigris green; so that the same bird, in passing from one place to another before your eyes, seems to undergo a total change of color. When the angle of incidence of the rays of light, reflected from his plumage, is acute, the color is green, when obtuse, blue. Such I think I have observed to be uniformly the case, without being optician enough to explain why it is so. From this, however, must be excepted the color of the head, which being of a very deep blue, is not affected by a change of position.

The nest of this bird is usually built in a low bush, among rank grass, grain or clover; suspended by two twigs, one passing up each side; and is composed outwardly of flax, and lined with fine dry grass. I have also known it to build in the hollow of an apple tree. The eggs, generally five, are blue, with a blotch of purple at the great end.

The Indigo-bird is five inches long, and seven inches in extent; the whole body is of a rich sky-blue, deepening on the head to an ultramarine, with a tinge of purple; the blue on the body, tail, and wings, varies in particular lights to a light green, or verdigris color, similar to that on the breast of a peacock; wings black, edged with light blue, and becoming brownish towards the tips; lesser coverts light blue; greater black, broadly skirted with the same blue; tail black, exteriorly edged with blue; bill black above, whitish below, somewhat larger in proportion than Finches of the same size usually are, but less than those of the genus *Emberiza*, with which Pennant has classed it, though I think improperly, as the bird has much more of the form and manners of the genus *Fringilla*, where I must be permitted to place it; legs and feet blackish brown. The female is of a light flaxen color, with the wings dusky black, and the cheeks, breast, and whole lower parts a clay color, with streaks of a darker color under the wings, and tinged in several places with bluish. Towards fall the male while moulting becomes nearly of the color of the female, and in one which I kept through the winter, the rich plumage did not return for more than two months; though I doubt not had the bird enjoyed his liberty and natural food under a warm sun this brownness would have been of shorter duration. The usual food of this species is insects and various kinds of seeds.

GENUS XL. MUSCICAPA. FLYCATCHER.

SPECIES I. *M. TYRANNUS*.

TYRANT FLYCATCHER, OR KING-BIRD.

[Plate XIII. Fig. 1.]

Lanius Tyrannus, LINN. *Syst.* 136.—LATH. *Syn.* I., 186.—CATESB. I., 55.—*Le Tyran de la Caroline*, BUFF. IV., 577. *Pl. Enl.* 676.—*Arct. Zool.* p. 384, No. 263.

THIS is the *Field Martin* of Maryland and some of the Southern States, and the *King-bird* of Pennsylvania and several of the northern districts. The epithet *Tyrant*, which is generally applied to him by naturalists, I am not altogether so well satisfied with; some, however, may think the two terms pretty nearly synonymous.

The trivial name King as well as Tyrant has been bestowed on this bird for its extraordinary behavior, and the authority it assumes over all others, during the time of breeding. At that season his extreme affection for his mate, and for his nest and young, makes him suspicious of every bird that happens to pass near his residence, so that he attacks without discrimination, every intruder. In the months of May, June, and part of July, his life is one continued scene of broils and battles, in which, however, he generally comes off conqueror. Hawks and Crows, the Bald Eagle, and the Great Black Eagle, all equally dread a rencontre with this dauntless little champion, who, as soon as he perceives one of these last approaching, launches into the air to meet him, mounts to a considerable height above him, and darts down on his back, sometimes fixing there to the great annoyance of his sovereign, who, if no convenient retreat or resting place be near, endeavors by various evolutions to rid himself of his merciless adversary. But the King-bird is not so easily dismounted. He teases the Eagle incessantly, sweeps upon him from right and left, remounts, that he may descend on his back with the greater violence; all the while keeping up a shrill and rapid twittering; and continuing the attack sometimes for more than a mile, till he is relieved by some other of his tribe equally eager for the contest.

There is one bird, however, which by its superior rapidity of flight, is sometimes more than a match for him; and I have several times witnessed his precipitate retreat before this active antagonist. This is the

Purple Martin, one whose food and disposition is pretty similar to his own; but who has greatly the advantage of him on wing, in eluding all his attacks, and teasing him as he pleases. I have also seen the Red-headed Woodpecker, while clinging on a rail of the fence, amuse himself with the violence of the King-bird, and play *bo-peep* with him round the rail, while the latter, highly irritated, made every attempt as he swept from side to side to strike him, but in vain. All this turbulence, however, vanishes as soon as his young are able to shift for themselves; and he is then as mild and peaceable as any other bird.

But he has a worse habit than all these; one much more obnoxious to the husbandman, and often fatal to himself. He loves, not the honey, but the *bees*; and, it must be confessed, is frequently on the look-out for these little industrious insects. He plants himself on a post of the fence, or on a small tree in the garden, not far from the hives, and thence sallies on them as they pass and repass, making great havoc among their numbers. His shrill twitter, so near to the house, gives intimation to the farmer of what is going on, and the gun soon closes his career for ever. Man arrogates to himself, in this case, the exclusive privilege of murder; and after putting thousands of these same little insects to death, seizes on the fruits of their labor.

The King-birds arrive in Pennsylvania about the twentieth of April, sometimes in small bodies of five and six together, and are at first very silent, until they begin to pair, and build their nest. This generally takes place about the first week in May. The nest is very often built in the orchard, on the horizontal branch of an apple tree; frequently also, as Catesby observes, on a sassafras tree, at no great height from the ground. The outside consists of small slender twigs, tops of withered flowers of the plant yarrow, and others, well wove together with tow and wool; and is made large, and remarkably firm and compact. It is usually lined with fine dry fibrous grass, and horse hair. The eggs are five, of a very pale cream color, or dull white, marked with a few large spots of deep purple, and other smaller ones of light brown, chiefly, though not altogether, towards the great end (See Fig. 1). They generally build twice in the season.

The King-bird is altogether destitute of song, having only the shrill twitter above mentioned. His usual mode of flight is singular. The vibrations of his broad wings, as he moves slowly over the fields, resemble those of a Hawk hovering and settling in the air to reconnoitre the ground below; and the object of the King-bird is no doubt something similar, viz. to look out for passing insects, either in the air, or among the flowers and blossoms below him. In fields of pasture he often takes his stand, on the tops of the mullein, and other rank weeds, near the cattle, and makes occasional sweeps after passing insects, particularly the large black gad-fly, so terrifying to horses and cattle. His eye

moves restlessly around him, traces the flight of an insect for a moment or two, then that of a second, and even a third, until he perceives one to his liking, when with a shrill sweep he pursues, seizes it, and returns to the same spot again, to look out for more. This habit is so conspicuous when he is watching the bee-hive, that several intelligent farmers of my acquaintance are of opinion that he picks out only the *drones*, and never injures the working bees. Be this as it may, he certainly gives a preference to one bee, and one species of insect, over another. He hovers over the river, sometimes for a considerable time, darting after insects that frequent such places, snatching them from the surface of the water, and diving about in the air like a Swallow; for he possesses at will great powers of wing. Numbers of them are frequently seen thus engaged, for hours together, over the rivers Delaware and Schuylkill, in a calm day, particularly towards evening. He bathes himself by diving repeatedly into the water from the overhanging branches of some tree; where he sits to dry and dress his plumage.

Whatever antipathy may prevail against him for depredations on the drones, or if you will, on the bees, I can assure the cultivator, that this bird is greatly his friend, in destroying multitudes of insects whose larvæ prey on the harvests of his fields, particularly his corn, fruit trees, cucumbers, and pumpkins. These noxious insects are the daily food of this bird; and he destroys, upon a very moderate average, some hundreds of them daily. The death of every King-bird is therefore an actual loss to the farmer, by multiplying the numbers of destructive insects; and encouraging the depredations of Crows, Hawks, and Eagles, who avoid as much as possible his immediate vicinity. For myself, I must say, that the King-bird possesses no common share of my regard. I honor this little bird for his extreme affection for his young; for his contempt of danger, and unexampled intrepidity; for his meekness of behaviour when there are no calls on his courage, a quality which even in the human race is justly considered so noble;

"In peace there's nothing so becomes a man
As modest stillness and humility;
But when the blast of war," &c., &c.

but above all, I honor and esteem this bird for the millions of ruinous vermin which he rids us of; whose depredations, in *one* season, but for the services of this and other friendly birds, would far overbalance all the produce of the bee-hives in fifty.

As a friend to this persecuted bird, and an enemy to prejudices of every description, will the reader allow me to set this matter in a somewhat clearer and stronger light, by presenting him with a short poetical epitome of the King-bird's history?

FAR in the south, where vast *Maragnon* flows,
 And boundless forests unknown wilds enclose;
 Vine-tangled shores, and suffocating woods,
 Parched up with heat, or drowned with pouring floods;
 Where each extreme alternately prevails,
 And Nature sad their ravages bewails;
 Lo! high in air, above those trackless wastes,
 With Spring's return the King-bird hither hastes;
 Coasts the famed Gulf,* and from his height explores,
 Its thousand streams, its long indented shores,
 Its plains immense, wide opening on the day,
 Its lakes and isles where feathered millions play;
 All tempt not him; till, gazing from on high,
 COLUMBIA's regions wide below him lie;
 There end his wanderings and his wish to roam,
 There lie his native woods, his fields, his *home*;
 Down, circling, he descends, from azure heights,
 And on a full-blown sassafras alights.

Fatigued and silent, for a while he views
 His old frequented haunts, and shades recluse,
 Sees brothers, comrades, every hour arrive—
 Hears, humming round, the tenants of the hive;
 Love fires his breast, he woos, and soon is blest;
 And in the blooming orchard builds his nest.

Come now, ye cowards! ye whom Heaven disdains.
 Who boast the happiest home—the richest plains;
 On whom, perchance, a wife, an infant's eye
 Hang as their hope, and on your arm rely;
 Yet, when the hour of danger and dismay
 Comes on that country, sneak in holes away,
 Shrink from the perils ye were bound to face,
 And leave those babes and country to disgrace;
 Come here (if such we have), ye dastard herd!
 And kneel in dust before this noble bird.

When the specked eggs within his nest appear,
 Then glows affection, ardent and sincere;
 No discord sours him when his mate he meets;
 But each warm heart with mutual kindness beats.
 For her repast he bears along the lea
 The bloated gad-fly and the balmy bee;
 For her repose scours o'er the adjacent farm,
 Whence Hawks might dart, or lurking foes alarm;
 For now abroad a band of ruffians prey,
 The Crow, the Cuckoo, and the insidious Jay;
 These, in the owner's absence, all destroy,
 And murder every hope, and every joy.

Soft sits his brooding mate; her guardian he,
 Perched on the top of some tall neighboring tree;
 Thence, from the thicket to the concave skies,
 His watchful eye around unceasing flies.

* Of Mexico.

Wrens, Thrushes, Warblers, startled at his note,
 Fly in affright the consecrated spot.
 He drives the plundering *Jay*, with honest scorn,
 Back to his woods ; the *Mocker* to his thorn ;
 Sweeps round the *Cuckoo*, as the thief retreats ;
 Attacks the *Crow* ; the diving *Hawk* defeats ;
 Darts on the *Eagle* downwards from afar,
 And midst the clouds prolongs the whirling war.
 All danger o'er, he hastens back elate,
 To guard his post and feed his faithful mate.

Behold him now, his little family flown,
 Meek, unassuming, silent, and alone ;
 Lured by the well-known hum of favorite bees,
 As slow he hovers o'er the garden trees ;
 (For all have failings, passions, whims that lead ;
 Some favorite wish, some appetite to feed) ;
 Strait he alights, and from the pear-tree spies
 The circling stream of humming insects rise ;
 Selects his prey ; darts on the busy brood,
 And shrilly twitters o'er his savory food.

Ah ! ill-timed triumph ! direful note to thee,
 That guides thy murderer to the fatal tree ;
 See where he skulks ! and takes his gloomy stand ;
 The deep-charged musket hanging in his hand ;
 And gaunt for blood, he leans it on a rest,
 Prepared, and pointed at thy snow-white breast.
 Ah friend ! good friend ! forbear that barbarous deed,
 Against it valor, goodness, pity plead ;
 If e'er a family's griefs, a widow's woe,
 Have reached thy soul, in mercy let him go !
 Yet, should the tear of pity nought avail,
 Let *interest* speak, let *gratitude* prevail ;
 Kill not thy friend, who thy whole harvest shields,
 And sweeps ten thousand vermin from thy fields ;
 Think how this dauntless bird, thy poultry's guard,
 Drove every *Hawk* and *Eagle* from thy yard ;
 Watched round thy cattle as they fed, and slew
 The hungry blackening swarms that round them flew ;
 Some small return, some little right resign,
 And spare *his* life whose services are thine !
 —— I plead in vain ! Amid the bursting roar
 The poor, lost KING-BIRD, welters in his gore.

This species is eight inches long, and fourteen in extent ; the general color above is a dark slaty ash ; the head and tail are nearly black ; the latter *even* at the end, and tipped with white ; the wings are more of a brownish cast ; the quills and wing coverts are also edged with dull white ; the upper part of the breast is tinged with ash ; the throat, and all the rest of the lower parts are pure white ; the plumage on the crown, though not forming a crest, is frequently erected, as represented in the plate, and discovers a rich bed of brilliant orange, or flame color.

called by the country people his crown; when the feathers lie close this is altogether concealed. The bill is very broad at the base, overhanging at the point, and notched, of a glossy black color, and furnished with bristles at the base; the legs and feet are black, seamed with gray; the eye hazel. The female differs in being more brownish on the upper parts, has a smaller streak of paler orange on the crown; and a narrower border of duller white on the tail. The young birds do not receive the orange on the head during their residence here the first season.

This bird is very generally known, from the lakes to Florida. Besides insects, they feed, like every other species of their tribe with which I am acquainted, on various sorts of berries, particularly blackberries, of which they are extremely fond. Early in September they leave Pennsylvania on their way to the south.

A few days ago, I shot one of these birds, the whole plumage of which was nearly white, or a little inclining to a cream color; it was a bird of the present year, and could not be more than a month old. This appeared also to have been its original color, as it issued from the egg. The skin was yellowish white; the eye much lighter than usual; the legs and bill blue. It was plump and seemingly in good order. I presented it to Mr. Peale. Whatever may be the cause of this loss of color, if I may so call it, in birds, it is by no means uncommon among the various tribes that inhabit the United States. The Sparrow Hawk, Sparrow, Robin, Red-winged Blackbird, and many others, are occasionally found in white plumage; and I believe that such birds do not become so by climate, age or disease, but that they are universally hatched so. The same phenomena are observable not only among various sorts of animals, but even among the human race; and a white negro is no less common, in proportion to their numbers, than a white Blackbird; though the precise cause of this in either is but little understood.

SPECIES II. *MUSCICAPA CRINITA*.

GREAT CRESTED FLYCATCHER.

[Plate XIII. Fig. 2.]

LINN. *Syst.* 325.—LATH. II., 357.—*Arct. Zool.* p. 386, No. 267.—*Le mouche rolle de Virginie à huppe verte*, BUFF. IV., 565. *Pl. Enl.* 569.

By glancing at the physiognomy of this bird and the rest of the figures on the same plate, it will readily be observed, that they all belong to one particular family of the same genus. They possess strong traits of their particular *cast*, and are all remarkably dexterous at their profession of fly-catching. The one now before us is less generally known than the preceding, being chiefly confined to the woods. There his harsh *squeak*, for he has no song, is occasionally heard above most others. He also visits the orchard; is equally fond of bees; but wants the courage and magnanimity of the King-bird. He arrives in Pennsylvania early in May, and builds his nest in a hollow tree deserted by the Blue-bird or Woodpecker. The materials of which this is formed are scanty, and rather novel. One of these nests, now before me, is formed of a little loose hay, feathers of the Guinea fowl, hog's bristles, pieces of cast snake skins, and dog's hair. Snake skins with this bird appear to be an indispensable article, for I have never yet found one of his nests without this material forming a part of it. Whether he surrounds his nest with this by way of *terrorem*, to prevent other birds or animals from entering; or whether it be that he finds its silky softness suitable for his young, is uncertain; the fact however is notorious. The female lays four eggs of a dull cream color thickly scratched with purple lines of various tints as if done with a pen. See fig. 2.

This species is eight inches and a half long, and thirteen inches in extent; the upper parts are of a dull greenish olive; the feathers on the head are pointed, centered with dark brown, ragged at the sides, and form a kind of blowzy crest; the throat and upper parts of the breast delicate ash; rest of the lower parts a sulphur yellow; the wing coverts are pale drab, crossed with two bars of dull white; the primaries are of a bright ferruginous or sorrel color; the tail is slightly forked, its interior vanes of the same bright ferruginous as the primaries; the bill is blackish, very much like that of the King-bird, furnished also with bristles; the eye is hazel; legs and feet bluish black. The female can scarcely be distinguished, by its colors, from the male.

This bird also feeds on berries towards the end of summer, particularly on huckleberries, which, during the time they last, seem to form the chief sustenance of the young birds. I have observed this species here as late as the tenth of September; rarely later. They do not, to my knowledge, winter in any of the Southern States.

SPECIES III. *MUSCICAPA NUNCIOLA*.*

PEWIT FLYCATCHER.

[Plate XIII. Fig. 4.]

BARTRAM, p. 289.—*Black-cap Flycatcher*, LATH. *Syn.* II., 353.—*Phæbe Flycatcher*, *Ibid.* *Sup.* p. 173.—*Le gobe-mouche noirâtre de la Caroline*, BUFF. IV., 541.—*Arct. Zool.* p. 387, No. 269.

THIS well-known bird is one of our earliest spring visitants, arriving in Pennsylvania about the first week in March, and continuing with us until October. I have seen them here as late as the 12th of November. In the month of February I overtook these birds lingering in the low swampy woods of North and South Carolina. They were feeding on smilax berries and chanting occasionally their simple notes. The favorite resort of this bird is by streams of water, under, or near bridges, in caves, &c. Near such places he sits on a projecting twig, calling out *pe-wee, pe-wit-titce pe-wee*, for a whole morning; darting after insects, and returning to the same twig; frequently flirting his tail, like the wagtail, though not so rapidly. He begins to build about the 20th or 25th of March, on some projecting part under a bridge—in a cave—in an open well five or six feet down among the interstices of the side walls—often under a shed—in the low eaves of a cottage, and such like places. The outside is composed of mud mixed with moss; is generally large and solid; and lined with flax and horse hair. The eggs are five, pure white, with two or three dots of red near the great end. See fig. 4. I have known them rear three broods in one season.

In a particular part of Mr. Bartram's woods, with which I am acquainted, by the side of a small stream, is a cave, five or six feet high, formed by the undermining of the water below, and the projection of two large rocks above:

There down smooth glistening rocks the rivulet pours,
Till in a pool its silent waters sleep,
A dark browed cliff, o'ertopped with fern and flowers,
Hangs, grimly louring, o'er the glassy deep;
Above through every chink the woodbines creep,
And smooth-barked beeches spread their arms around,
Whose roots cling twisted round the rocky steep;
A more sequestered scene is nowhere found,
For contemplation deep, and silent thought profound.

* *Muscicapa fusca*, GMEL. I., p. 931.—LATH. *Ind. Orn.* II., p. 483.

In this cave I knew the Pewit to build for several years. The place was solitary, and he was seldom disturbed. In the month of April, one fatal Saturday, a party of boys from the city, armed with guns, dealing indiscriminate destruction among the feathered tribes around them, directed their murderous course this way, and within my hearing destroyed both parents of this old and peaceful settlement. For two successive years, and I believe to this day, there has been no Pewee seen about this place. This circumstance almost convinces me that birds, in many instances, return to the same spots to breed; and who knows but like the savage nations of Indians they may usurp a kind of exclusive right of tenure to particular districts where they themselves have been reared?

The notes of the Pewee, like those of the Blue-bird, are pleasing, not for any melody they contain, but from the ideas of spring and returning verdure with all the sweets of this lovely season, which are associated with his simple but lively ditty. Towards the middle of June he becomes nearly silent; and late in the fall gives us a few farewell and melancholy repetitions, that recall past imagery, and make the decayed and withered face of nature appear still more melancholy.

The Pewit is six inches and a half in length, and nine and a half broad; the upper parts are of a dark dusky olive; the plumage of the head, like those of the two preceding, is loose, subcrested, and of a deep brownish black; wings and tail deep dusky, the former edged on every feather with yellowish white, the latter forked, and widening remarkably towards the end; bill formed exactly like that of the King-bird; whole lower parts a pale delicate yellow; legs and bill wholly black; iris hazel. The female is almost exactly like the male, except in having the crest somewhat more brown. This species inhabits from Canada to Florida; great numbers of them usually wintering in the two Carolinas and Georgia. In New York they are called the Phoeby-bird, and are accused of destroying bees. With many people in the country, the arrival of the Pewee serves as a sort of almanac, reminding them that now it is time such and such work should be done. "Whenever the Pewit appears," says Mr. Bartram, "we may plant peas and beans in the open grounds, French beans, sow radishes, onions, and almost every kind of esculent garden seeds, without fear or danger from frosts; for although we have sometimes frosts after their first appearance for a night or two, yet not so severe as to injure the young plants."*

* Travels, page 288.

SPECIES IV. *MUSCICAPA RAPAX*.*

WOOD PEWEE FLYCATCHER.

[Plate XIII. Fig. 5.]

Muscicapa virens, LINN. *Syst.* 327.—LATH. *Syn.* II., 350.—Id. *Supp.* p. 174, No. 82.—CATESB. I., 54, fig. 1.—*Le gobe-mouche brun de la Caroline*, BUFF. IV., 543.—*Muscicapa acadica*, GMEL. *Syst.* I., p. 947.—*Arct. Zool.* 387, No. 270.

I HAVE given the name Wood Pewee to this species, to discriminate it from the preceding, which it resembles so much in form and plumage as scarcely to be distinguished from it, but by an accurate examination of both. Yet in manners, mode of building, period of migration and notes, the two species differ greatly. The Pewee is among the first birds that visit us in spring, frequenting creeks, building in caves and under arches of bridges; the *Wood Pewee*, the subject of our present account, is among the latest of our summer birds, seldom arriving before the twelfth or fifteenth of May; frequenting the shadiest high timbered woods, where there is little underwood, and abundance of dead twigs and branches shooting across the gloom, generally in low situations; builds its nest on the upper side of a limb or branch, forming it outwardly of moss; but using no mud; and lining it with various soft materials. The female lays five white eggs; and the first brood leave the nest about the middle of June.

This species is an exceeding expert Flycatcher. It loves to sit on the high dead branches, amid the gloom of the woods, calling out in a feeble plaintive tone, *peto way*; *peto way*; *pee way*; occasionally darting after insects; sometimes making a circular sweep of thirty or forty yards, snapping up numbers in its way with great adroitness; and returning to its position and chant as before. In the latter part of August its notes are almost the only ones to be heard in the woods; about which time, also, it even approaches the city, where I have frequently observed it busily engaged under trees, in solitary courts, gardens, &c., feeding and training its young to their profession. About the middle of September it retires to the south, a full month before the other.

Length six inches, breadth ten; back dusky olive, inclining to greenish; head subcrested and brownish black; tail forked and widen-

* *Muscicapa virens*, LINN., which name should be adopted.

ing towards the tips, lower parts pale yellowish white: the only discriminating marks between this and the preceding are the size, and the color of the lower mandible, which in this is yellow—in the Pewee black. The female is difficult to be distinguished from the male.

This species is far more numerous than the preceding; and probably winters much farther south. The Pewee was numerous in North and South Carolina, in February; but the Wood Pewee had not made its appearance in the lower parts of Georgia even so late as the sixteenth of March.

SPECIES V. *MUSCICAPA QUERULA*.*

SMALL GREEN, CRESTED FLYCATCHER.

[Plate XIII. Fig. 3.]

Muscicapa subviridis, BARTRAM, p. 289.—*Arch. Zool.* p. 386, No. 268.

THIS bird is but little known. It inhabits the deepest, thick shaded, solitary parts of the woods, sits generally on the lower branches, utters every half minute or so, a sudden sharp squeak, which is heard a considerable way through the woods; and as it flies from one tree to another has a low querulous note, something like the twitterings of chickens nestling under the wings of the hen. On alighting this sound ceases; and it utters its note as before. It arrives from the south about the middle of May; builds on the upper side of a limb, in a low swampy part of the woods, and lays five white eggs. It leaves us about the beginning of September. It is a rare and very solitary bird, always haunting the most gloomy, moist and unfrequented parts of the forest. It feeds on flying insects; devours bees; and in the season of huckleberries they form the chief part of its food. Its northern migrations extend as far as Newfoundland.

The length of this species is five inches and a half, in breadth nine inches; the upper parts are of a green olive color; the lower pale greenish yellow, darkest on the breast; the wings are deep brown, crossed with two bars of yellowish white, and a ring of the same surrounds the eye, which is hazel. The tail is *rounded* at the end; the bill is remarkably flat and broad, dark brown above, and flesh color below; legs and feet pale ash. The female differs little from the male in color.

* *Muscicapa acadica*, GMEL. I., p. 947.—LATH. *Ind. Orn.* II., p. 489.

SPECIES VI. *MUSCICAPA RUTICILLA*.

AMERICAN REDSTART.

[Plate VI. Fig. 6, Male.]

Muscicapa Ruticilla, LINN. *Syst.* I., 236, 10.—GMEL. *Syst.* I., 935.—*Motacilla flavicauda*, GMEL. *Syst.* I., 997 (female).—*Le Gobe-mouche d'Amerique*, BRISS. *Orn.* II., 383, 14. *Pl. Enl.* 566, fig. 1, 2.—*Small American Redstart*, EDW. 80. *Id.* 257 (female).—*Yellow-tailed Warbler*, *Arct. Zool.* II., No. 301. *Id.* II., No. 282.—LATHAM, *Syn.* IV., 427, 18.—*Arct. Zool.* II., No. 301 (female).

THOUGH this bird has been classed by several of our most respectable ornithologists among the Warblers, yet in no species are the characteristics of the genus *Muscicapa* more decisively marked; and in fact it is one of the most expert Flycatchers of its tribe. It is almost perpetually in motion; and will pursue a retreating party of flies from the tops of the tallest trees, in an almost perpendicular, but zigzag direction, to the ground, while the clicking of its bill is distinctly heard, and I doubt not but it often secures ten or twelve of these in a descent of three or four seconds. It then alights on an adjoining branch, traverses it lengthwise for a few moments, flirting its expanded tail from side to side, and suddenly shoots off, in a direction quite unexpected, after fresh game, which it can discover at a great distance. Its notes, or twitter, though animated and sprightly, are not deserving the name of song; sometimes they are *weese, weese, weese*, repeated every quarter of a minute, as it skips among the branches; at other times this twitter varies to several other chants, which I can instantly distinguish in the woods, but cannot find words to imitate. The interior of the forest, the borders of swamps and meadows, deep glens covered with wood, and wherever flying insects abound, there this little bird is sure to be seen. It makes its appearance in Pennsylvania, from the south, late in April; and leaves us again about the beginning of September. It is very generally found over the whole United States; and has been taken at sea, in the fall, on its way to St. Domingo,* and other of the West India islands, where it winters, along with many more of our summer visitants. It is also found in Jamaica, where it remains all winter.†

The name Redstart, evidently derived from the German *Rothsterts* (red tail), has been given this bird from its supposed resemblance to the

* Edwards.

† Sloane.

Redstart of Europe (*Motacilla phoeniceus*); but besides being decisively of a different genus, it is very different both in size and in the tints and disposition of the colors of its plumage. Buffon goes even so far as to question whether the differences between the two be more than what might be naturally expected from change of climate. This eternal reference of every animal of the new world to that of the old, if adopted to the extent of this writer, with all the transmutations it is supposed to have produced, would leave us in doubt whether even the *Ka-te-dids** of America were not originally Nightingales of the old world, degenerated by the inferiority of the food and climate of this upstart continent. We have in America many different species of birds that approach so near in resemblance to one another, as not to be distinguished but by the eye of a naturalist, and on a close comparison; these live in the same climate, feed on the same food, and are, I doubt not, the same now as they were five thousand years ago; and ten thousand years hence, if the species then exist, will be found marked with the same nice discriminations as at present. Is it therefore surprising, that two different species placed in different quarters of the world, should have certain near resemblances to one another without being bastards, or degenerated descendants, the one of the other, when the whole chain of created beings seem united to each other by such amazing gradations, that bespeak, not random chance and accidental degeneracy, but the magnificent design of an incomprehensibly wise and omnipotent Creator?

The American Redstart builds frequently in low bushes, in the fork of a small sapling, or on the drooping branches of the elm, within a few feet of the ground; outwardly it is formed of flax well wound together, and moistened with its saliva, interspersed here and there with pieces of lichen, and lined with a very soft downy substance. The female lays five white eggs, sprinkled with gray, and specks of blackish. The male is extremely anxious for its preservation; and on a person's approaching the place will flirt about within a few feet, seeming greatly distressed.

The length of this species is five inches, extent six and a quarter; the general color above is black, which covers the whole head and neck, and spreads on the upper part of the breast in a rounding form; where, as well as on the head and neck, it is glossed with steel blue; sides of the breast, below this black, the inside of the wings, and upper half of the wing-quills, are of a fine aurora color; but the greater and lesser coverts of the wings being black conceal this; and the orange, or aurora color, appears only as a broad transverse band across the wings; from thence to the tip they are brownish; the four middle feathers of the tail are black, the other eight of the same aurora color, and black towards

* A species of *Gryllus*, well known for its lively chatter during the evenings and nights of September and October.

the tips ; belly and vent white, slightly streaked with pale orange ; legs black ; bill of the true *Muscicapa* form, triangular at the base, beset with long bristles, and notched near the point ; the female has not the rich aurora band across the wing ; her back and crown is cinereous inclining to olive ; the white below is not so pure ; lateral feathers of the tail and sides of the breast greenish yellow ; middle tail feathers dusky brown." The young males of a year old are almost exactly like the female, differing in these particulars, that they have a yellow band across the wings which the female has not, and the back is more tinged with brown ; the lateral tail feathers are also yellow ; middle ones brownish black ; inside of the wings yellow. On the third season they receive their complete colors ; and as males of the second year, in nearly the dress of the female, are often seen in the woods, having the same notes as the full plumaged male, it has given occasion to some people to assert, that the females sing as well as the males ; and others have taken them for another species. The fact, however, is as I have stated it. This bird is too little known by people in general to have any provincial name.

MUSCICAPA RUTICILLA.

REDSTART.

[Plate XLV. Fig. 2, Young Bird.]

THE male of this species may be seen in his perfect dress, in Plate VI. ; the present figure represents the young bird as he appears for the first two seasons ; the female differs very little from this, chiefly in the green olive ; being more inclined to ash.

This is one of our summer birds, and from the circumstance of being found off Hispaniola in November, is supposed to winter in the islands. They leave Pennsylvania about the twentieth of September ; are dexterous flycatchers, though ranked by European naturalists among the warblers, having the bill notched and beset with long bristles.

In its present dress the Redstart makes its appearance in Pennsylvania about the middle or twentieth of April ; and from being heard chanting its few sprightly notes has been supposed by some of our own naturalists to be a different species. I have, however, found both parents of the same nest in the same dress nearly ; the female, eggs and nest, as well as the notes of the male, agreeing exactly with those of the Redstart ; evidence sufficiently satisfactory to me.

Head above dull slate ; throat pale buff ; sides of the breast and four

exterior tail feathers fine yellow, tipped with dark brown; wings and back greenish olive; tail coverts blackish, tipped with ash; belly dull white; no white or yellow on the wings; legs dirty purplish brown; bill black.

The Redstart extends very generally over the United States; having myself seen it on the borders of Canada, and also in the Mississippi territory.

This species has the constant habit of flirting its expanded tail from side to side as it runs along the branches, with its head levelled almost in a line with its body; occasionally shooting off after winged insects, in a downward zigzag direction, and with admirable dexterity, snapping its bill as it descends. Its notes are few and feeble, repeated at short intervals as it darts among the foliage; having at some times a resemblance to the sounds *sic sic saic*; at others of *weesy weesy weesy*; which last seems to be its call for the female, while the former appears to be its most common note.

SPECIES VII. *MUSCICAPA CÆRULEA*.

BLUE-GRAY FLYCATCHER.

[Plate XVIII. Fig. 5.]

Motacilla cærulea, TURTON, *Syst.* I., p. 612.—*Blue Flycatcher*, EDW. *Pl.* 302.—*Regulus griseus*, the little *Bluish Gray Wren*, BARTRAM, p. 291.—*Le Figuier gris de fer*, BUFF. V., p. 309.—*Cerulean Warbler*, *Arct. Zool.* II., No. 299.—LATH. *Syn.* VI., p. 490, No. 127.

THIS diminutive species, but for the length of the tail, would rank next to our Humming-bird in magnitude. It is a very dexterous Flycatcher, and has also something of the manners of the Titmouse, with whom, in early spring and fall, it frequently associates. It arrives in Pennsylvania from the south about the middle of April; and about the beginning of May builds its nest, which it generally fixes among the twigs of a tree, sometimes at the height of ten feet from the ground, sometimes fifty feet high, on the extremities of the tops of a high tree in the woods. This nest is formed of very slight and perishable materials, the husks of buds, stems of old leaves, withered blossoms of weeds, down from the stalks of fern, coated on the outside with gray lichen, and lined with a few horse hairs. Yet in this frail receptacle, which one would think scarcely sufficient to admit the body of the owner, and sustain even its weight, does the female Cow-bird venture to deposit her egg; and to the management of these pigmy nurses leaves the fate of her helpless young. The motions of this little bird are quick; he seems

always on the lookout for insects; darts about from one part of the tree to another with hanging wings and erected tail, making a feeble chirpings, *tsee, tsee*, no louder than a mouse. Though so small in itself, it is ambitious of hunting on the highest branches, and is seldom seen among the humbler thickets. It remains with us until the twentieth or twenty-eighth of September, after which we see no more of it until the succeeding spring. I observed this bird near Savannah, in Georgia, early in March; but it does not winter even in the southern parts of that state.

The length of this species is four inches and a half, extent six and a half; front and line over the eye black; bill black, very slender, overhanging at the tip, notched, broad, and furnished with bristles at the base; the color of the plumage above is a light bluish gray, bluest on the head, below bluish white; tail longer than the body, a little rounded and black, except the exterior feathers, which are almost all white, and the next two also tipped with white; tail coverts black; wings brownish black, some of the secondaries next the body edged with white; legs extremely slender, about three-fourths of an inch long, and of a bluish black color. The female is distinguished by wanting the black line round the front.

The food of this bird is small winged insects and their larvæ, but particularly the former, which it seems almost always in pursuit of.

SPECIES VIII. *MUSCICAPA SYLVICOLA*.*

YELLOW-THROATED FLYCATCHER.

[Plate VII. Fig. 3.]

THIS summer species is found chiefly in the woods, hunting among the high branches; and has an indolent and plaintive note, which it repeats, with some little variation, every ten or twelve seconds, like *preco—preca*, &c. It is often heard in company with the Red-eyed Flycatcher (*Muscicapa olivacea*), or Whip-Tom-Kelly of Jamaica; the loud energetic notes of the latter, mingling with the soft languid warble of the former, producing an agreeable effect, particularly during the burning heat of noon, when almost every other songster but these two is silent. Those who loiter through the shades of our magnificent forests at that hour, will easily recognise both species. It arrives from the south early in May, and returns again with its young about the middle of September. Its nest, which is sometimes fixed on the upper side of

* *Virco flavifrons*, Ois. de l'Am. Sept. VIEILLOT, pl. 54.

a limb, sometimes on a horizontal branch among the twigs, generally on a tree, is composed outwardly of thin strips of the bark of grape-vines, moss, lichens, &c., and lined with fine fibres of such like substances; the eggs, usually four, are white, thinly dotted with black, chiefly near the great end. Winged insects are its principal food.

Whether this species has been described before or not I must leave to the sagacity of the reader, who has the opportunity of examining European works of this kind, to discover.* I have met with no description in Pennant, Buffon, or Latham, that will properly apply to this bird, which may perhaps be owing to the imperfection of the account, rather than ignorance of the species, which is by no means rare.

The Yellow-throated Flycatcher is five inches and a half long, and nine inches from tip to tip of the expanded wings; the upper part of the head, sides of the neck, and the back, are of a fine yellow olive; throat, breast and line over the eye, which it nearly encircles, a delicate lemon yellow, which in a lighter tinge lines the wings; belly and vent pure silky white; lesser wing coverts, lower part of the back, and rump, ash; wings deep brown, almost black, crossed with two white bars; primaries edged with light ash, secondaries with white; tail a little forked, of the same brownish black with the wings, the three exterior feathers edged on each vane with white; legs and claws light blue; the two exterior toes united to the middle one as far as the second joint; bill broad at the base, with three or four slight bristles, the upper mandible overhanging the lower at the point, near which it is deeply notched; tongue thin, broad, tapering near the end, and bifid; the eye is of a dark hazel; and the whole bill of a dusky light blue. The female differs very little in color from the male; the yellow on the breast and round the eye is duller, and the white on the wings less pure.

SPECIES IX. *MUSCICAPA SOLITARIA*.

SOLITARY FLYCATCHER.

[Plate XVII. Fig. 6, Male.]

THIS rare species I can find nowhere described. I have myself never seen more than three of them; all of whom corresponded in their markings; and on dissection were found to be males. It is a silent, solitary bird. It is also occasionally found in the state of Georgia, where I saw a drawing of it in the possession of Mr. Abbot, who con-

* See "Orange-throated Warbler." LATH. *Syn.* II., 481, 103.

sidered it a very scarce species. He could give me no information of the female. The one from which the figure in the plate was taken, was shot in Mr. Bartram's woods, near Philadelphia, among the branches of dogwood, in the month of October. It appears to belong to a particular family, or subdivision of the *Muscicapa* genus, among which are the White-eyed, the Yellow-throated, and several others already described in the present work. Why one species should be so rare, while another, much resembling it, is so numerous, at least a thousand for one, is a question I am unable to answer; unless by supposing the few we meet with here to be accidental stragglers from the great body, which may have their residence in some other parts of our extensive continent.

The Solitary Flycatcher is five inches long, and eight inches in breadth; cheeks and upper part of the head and neck, a fine bluish gray; breast pale cinereous; flanks and sides of the breast yellow; whole back and tail coverts green olive; wings nearly black; the first and second row of coverts tipped with white; the three secondaries next the body edged with pale yellowish white; the rest of the quills bordered with light green; tail slightly forked, of the same tint as the wings, and edged with light green; from the nostrils a line of white proceeds to and encircles the eye; lores black; belly and vent white; upper mandible black; lower light blue; legs and feet light blue; eyes hazel.

SPECIES X. *MUSCICAPA CANTATRIX*.

WHITE-EYED FLYCATCHER.

[Plate XVIII. Fig. 6.]

Muscicapa noveboracensis, Gmel. *Syst.* i., p. 947.—*Hanging Flycatcher*, LATH. *Syn. Supp.* p. 174.—*Arct. Zool.* p. 389, No. 274.—*Muscicapa cantatrix*, the little Domestic Flycatcher, or Green Wren, BARTRAM, p. 290.*

THIS is another of the Cow-bird's adopted nurses; a lively, active, and sociable little bird, possessing a strong voice for its size, and a great variety of notes; and singing with little intermission, from its first arrival about the middle of April to a little before its departure in September. On the twenty-seventh of February I heard this bird in the southern parts of the state of Georgia, in considerable numbers, singing with great vivacity. They had only arrived a few days before. Its arrival in Pennsylvania, after an interval of seven weeks, is a proof that our birds of passage, particularly the smaller species, do not migrate

* *Vireo musicus*, VIEILLLOT, *Ois. de l'Am. Sept.* pl. 52.

at once from south to north; but progress daily, keeping company, as it were, with the advances of spring. It has been observed in the neighborhood of Savannah, so late as the middle of November; and probably winters in Mexico, and the West Indies.

This bird builds a very neat little nest, often in the figure of an inverted cone; it is suspended by the upper edge of the two sides, on the circular bend of a prickly vine, a species of smilax that generally grows in low thickets. Outwardly it is constructed of various light materials, bits of rotten wood, fibres of dry stalks, of weeds, pieces of paper, commonly newspapers, an article almost always found about its nest, so that some of my friends have given it the name of the *Politician*; all these substances are interwoven with the silk of caterpillars, and the inside is lined with fine dry grass and hair. The female lays five eggs, pure white, marked near the great end with a very few small dots of deep black or purple. They generally raise two broods in a season. They seem particularly attached to thickets of this species of smilax, and make a great ado when any one comes near their nest; approaching within a few feet, looking down, and scolding with great vehemence. In Pennsylvania they are a numerous species.

The White-eyed Flycatcher is five inches and a quarter long, and seven in extent; the upper parts are a fine yellow olive, those below white, except the sides of the breast, and under the wings, which are yellow; line round the eye, and spot near the nostril also rich yellow; wings deep dusky black, edged with olive green, and crossed with two bars of pale yellow; tail forked, brownish black, edged with green olive; bill, legs and feet light blue; the sides of the neck incline to a grayish ash. The female, and young of the first season, are scarcely distinguishable in plumage from the male.

SPECIES XI. *MUSCICAPA MELODIA*.*

WARBLING FLYCATCHER.

[Plate XLII. Fig. 2.]

THIS sweet little warbler is for the first time figured and described. In its general appearance it resembles the Red-eyed Flycatcher; but on a close comparison differs from that bird in many particulars. It arrives in Pennsylvania about the middle of April, and inhabits the thick foliage of orchards and high trees; its voice is soft, tender and soothing, and its notes flow in an easy continued strain that is extremely

* *Muscicapa gilva*, VIEILLOT, *Ois. de L'Am. Sept.* pl. 34.

pleasing. It is often heard among the weeping willows and Lombardy poplars of the city; is rarely observed in the woods; but seems particularly attached to the society of man. It gleans among the leaves, occasionally darting after winged insects, and searching for caterpillars; and seems by its manners to partake considerably of the nature of the genus *Sylvia*. It is late in departing, and I have frequently heard its notes among the fading leaves of the poplar in October.

This little bird may be distinguished from all the rest of our songsters by the soft tender easy flow of its notes, while hid among the foliage. In these there is nothing harsh, sudden or emphatical; they glide along in a kind of meandering strain that is peculiarly its own. In May and June it may be generally heard in the orchards, the borders of the city, and around the farm-house.

This species is five inches and a half long, and eight inches and a half in extent; bill dull lead color above, and notched near the point, lower a pale flesh color; eye dark hazel; line over the eye and whole lower parts white, the latter tinged with very pale greenish yellow near the breast; upper parts a pale green olive; wings brown, broadly edged with pale olive green; tail slightly forked, edged with olive; the legs and feet pale lead; the head inclines a little to ash; no white on the wings or tail. Male and female nearly alike.

SPECIES XII. *MUSCICAPA OLIVACEA*.

RED-EYED FLYCATCHER.

[Plate XII. Fig. 2.]

LINN. *Syst.* I., p. 327, 14.—*Gobe-mouche de la Caroline et de la Jamaïque*, BUFF. IV., p. 539, EDW. t. 253.—CATESB. t. 54.—LATH. *Syn.* III., p. 351, No. 52.—*Muscicapa sylvicola*, BARTRAM, p. 290.*

THIS is a numerous species, though confined chiefly to the woods and forests, and, like all the rest of its tribe that visit Pennsylvania, is a bird of passage. It arrives here late in April; has a loud, lively and energetic song, which it continues, as it hunts among the thick foliage, sometimes for an hour with little intermission. In the months of May, June, and to the middle of July, it is the most distinguishable of all the other warblers of the forest; and even in August, long after the rest have almost all become mute, the notes of the Red-eyed Flycatcher are frequently heard with unabated spirit. These notes are in short, emphatical bars, of two, three, or four syllables. In Jamaica, where

* *Muscicapa altiloqua*, VIEILL. *Ois. de l'Am. Sept.* pl. 38.

this bird winters, and is probably also resident, it is called, as Sloane informs us, "Whip-Tom Kelly," from an imagined resemblance of its notes to these words. And indeed, on attentively listening for some time to this bird in his full ardor of song, it requires but little of imagination to fancy that you hear it pronounce these words, "Tom Kelly! Whip-Tom Kelly!" very distinctly. It inhabits from Georgia to the river St. Lawrence, leaving Pennsylvania about the middle of September.

This bird builds in the month of May a small neat pensile nest, generally suspended between two twigs of a young dogwood or other small sapling. It is hung by the two upper edges, seldom at a greater height than four or five feet from the ground. It is formed of pieces of hornets' nests, some flax, fragments of withered leaves, slips of vine bark, bits of paper, all glued together with the saliva of the bird, and the silk of caterpillars, so as to be very compact; the inside is lined with fine slips of grape-vine bark, fibrous grass, and sometimes hair. These nests are so durable that I have often known them to resist the action of the weather for a year; and in one instance I found the nest of the Yellow-bird built in the cavity of one of these of the preceding year. The mice very often take possession of them after they are abandoned by the owners. The eggs are four, sometimes five, pure white, except near the great end, where they are marked with a few small dots of dark brown or reddish. They generally raise two broods in a season.

The Red-eyed Flycatcher is one of the adopted nurses of the Cow-bird, and a very favorite one, showing all the symptoms of affection for the foundling, and as much solicitude for its safety, as if it were its own. The figure of that singular bird, accompanied by a particular account of its history, is given in Plate XVIII. of the present work.

Before I take leave of this bird, it may not be amiss to observe that there is another, and a rather less species of Flycatcher, somewhat resembling the Red-eyed, which is frequently found in its company. Its eyes are hazel, its back more cinereous than the other, and it has a single light streak over the eye. The notes of this bird are low, somewhat plaintive, but warbled out with great sweetness; and form a striking contrast with those of the Red-eyed Flycatcher. I think it probable that Dr. Barton had reference to this bird when he made the following remarks. See his "Fragments of the Natural History of Pennsylvania," page 19. "*Muscicapa olivacea*.—I do not think with Mr. Pennant that this is the same bird as the Whip-Tom-Kelly of the West Indies. Our bird has no such note; but a great variety of soft, tender and agreeable notes. It inhabits forests; and does not, like the West India bird, build a pendulous nest." Had the learned Professor, however, examined into this matter with his usual accuracy, he would

have found, that the *Muscicapa olivacea*, and the soft and tender songster he mentions, are two very distinct species; and that both the one and the other actually build very curious pendulous nests.

This species is five inches and a half long, and seven inches in extent; crown ash, slightly tinged with olive, bordered on each side with a line of black, below which is a line of white passing from the nostril over and a little beyond the eye; the bill is longer than usual with birds of its tribe, the upper mandible overhanging the lower considerably and notched, dusky above, and light blue below; all the rest of the plumage above is of a yellow olive, relieved on the tail and at the tips of the wings with brown; chin, throat, breast and belly pure white; inside of the wings and vent feathers greenish yellow; the tail is very slightly forked; legs and feet light blue; iris of the eye red. The female is marked nearly in the same manner, and is distinguishable only by the greater obscurity of the colors.

SPECIES XIII. *MUSCICAPA CUCULLATA*.

HOODED FLYCATCHER.

[Plate XXVI. Fig. 3.]

Le Gobe-mouche citrin, BUFFON, IV., 538. *Pl. Enl.* 666.—*Hooded Warbler*, *Arct. Zool.* p. 400, No. 287.—LATHAM, II., 462.—CATESBY, I., 60.—*Mitred Warbler*, TURTON, I., 601. *Hooded Warbler*, *Ibid.**

WHY those two judicious naturalists, Pennant and Latham, should have arranged this bird with the Warblers is to me unaccountable; as few of the *Muscicapæ* are more distinctly marked than the species now before us. The bill is broad at the base, where it is beset with bristles; the upper mandible notched, and slightly overhanging at the tip; and the manners of the bird, in every respect, those of a Flycatcher. This species is seldom seen in Pennsylvania and the Northern States; but through the whole extent of country south of Maryland, from the Atlantic to the Mississippi, is very abundant. It is however most partial to low situations, where there is plenty of thick underwood; abounds among the canes in the state of Tennessee, and in the Mississippi territory; and seems perpetually in pursuit of winged insects; now and then uttering three loud not unmusical and very lively notes, resembling *twée, twée, twitchie*, while engaged in the chase. Like almost all its tribe

* We add the following synonyms:—*Motacilla mitrata*, GMEL. I., p. 977.—*Sylvia mitrata*, LATH. *Ind. Orn.* II., p. 523.—VIEILL. *Ois. d'Am. Sept.* pl. 77.—*Sylvia cucullata*, LATH. *Ind. Orn.* II., p. 523.

it is full of spirit, and exceedingly active. It builds a very neat and compact nest, generally in the fork of a small bush, forms it outwardly of moss and flax, or broken hemp, and lines it with hair, and sometimes feathers; the eggs are five, of a grayish white, with red spots towards the great end. In all parts of the United States, where it inhabits, it is a bird of passage. At Savannah I met with it about the twentieth of March; so that it probably retires to the West India islands, and perhaps Mexico, during winter. I also heard this bird among the rank reeds and rushes within a few miles of the mouth of the Mississippi. It has been sometimes seen in the neighborhood of Philadelphia; but rarely; and on such occasions has all the mute timidity of a stranger, at a distance from home.

This species is five inches and a half long, and eight in extent; forehead, cheeks and chin yellow, surrounded with a hood of black that covers the crown, hind head, and part of the neck, and descends, rounding, over the breast; all the rest of the lower parts are rich yellow; upper parts of the wings, the tail and back, yellow olive; interior vanes and tips of the wing and tail dusky; bill black; legs flesh colored; inner webs of the three exterior tail feathers white for half their length from the tips; the next slightly touched with white; the tail slightly forked, and exteriorly edged with rich yellow olive.

The female has the throat and breast yellow, slightly tinged with blackish; the black does not reach so far down the upper part of the neck, and is not of so deep a tint. In the other parts of her plumage she exactly resembles the male. I have found some females that had little or no black on the head or neck above; but these I took to be young birds, not yet arrived at their full tints.

SPECIES XIV. *MUSCICAPA CANADENSIS*.*

CANADA FLYCATCHER.

[Plate XXVI. Fig: 2, Male.]

LINN. *Syst.* 324.—*Arct. Zool.* p. 338, No. 273.—LATHAM, II., 354.

THIS is a solitary, and in the lower parts of Pennsylvania, rather a rare species; being more numerous in the interior, particularly near the mountains, where the only two I ever met with were shot. They are silent birds, as far as I could observe; and were busily darting among

* *Sylvia pardalina*, BONAPARTE *Obs.* No. 126.—*Ibid.* SYNOP. No. 108.

the branches after insects. From the specific name given them it is probable that they are more plenty in Canada than in the United States; where it is doubtful whether they be not mere passengers in spring and autumn.

This species is four inches and a half long, and eight in extent; front black; crown dappled with small streaks of gray and spots of black; line from the nostril to and around the eye yellow; below the eye a streak or spot of black, descending along the sides of the throat, which, as well as the breast and belly, is brilliant yellow, the breast being marked with a broad rounding band of black, composed of large irregular streaks; back, wings and tail cinereous brown; vent white; upper mandible dusky, lower flesh colored; legs and feet the same; eye hazel.

Never having met with the female of this bird I am unable at present to say in what its colors differ from those of the male.

SPECIES XV. *MUSCICAPA PUSILLA*.*

GREEN BLACK-CAPPED FLYCATCHER.

[Plate XXVI. Fig. 4, Male.]

THIS neat and active little species I have never met with in the works of any European naturalist. It is an inhabitant of the swamps of the Southern States, and has been several times seen in the lower parts of the states of New Jersey and Delaware. Amidst almost unapproachable thickets of deep morasses it commonly spends its time, during summer, and has a sharp squeaking note, nowise musical. It leaves the Southern States early in October.

This species is four inches and a half long, and six and a half in extent; front line over the eye and whole lower parts yellow, brightest over the eye and dullest on the cheeks, belly and vent, where it is tinged with olive; upper parts olive green; wings and tail dusky brown, the former very short; legs and bill flesh colored; crown covered with a patch of deep black; iris of the eye hazel.

The female is without the black crown, having that part of a dull yellow olive, and is frequently mistaken for a distinct species. From her great resemblance, however, in other respects to the male, now first figured, she cannot hereafter be mistaken.

* *Sylvia Wilsonii*, BONAPARTE, *Obs.* No. 126.—*Ibid.* SYNOP. 135.

SPECIES XVI. *MUSCICAPA MINUTA*.

SMALL-HEADED FLYCATCHER.

[Plate L. Fig. 5, Male.]

THIS very rare species is the only one I have met with, and is drawn reduced to half its size, to correspond with the rest of the figures on the same plate. It was shot on the twenty-fourth of April, in an orchard, and was remarkably active, running, climbing and darting about among the opening buds and blossoms with extraordinary agility. From what quarter of the United States or of North America it is a wanderer, I am unable to determine, having never before met with an individual of the species. Its notes and manner of breeding are also alike unknown to me. This was a male: it measured five inches long, and eight and a quarter in extent; the upper parts were dull yellow olive; the wings dusky brown edged with lighter; the greater and lesser coverts tipped with white; the lower parts dirty white, stained with dull yellow, particularly on the upper parts of the breast; the tail dusky brown, the two exterior feathers marked like those of many others with a spot of white on the inner vanes; head remarkably small; bill broad at the base, furnished with bristles, and notched near the tip; legs dark brown: feet yellowish; eye dark hazel.

Since writing the above I have shot several individuals of this species in various quarters of New Jersey, particularly in swamps. They all appear to be nearly alike in plumage. Having found them there in June, there is no doubt of their breeding in that state, and probably in such situations far to the southward; for many of the southern summer birds that rarely visit Pennsylvania, are yet common to the swamps and pine woods of New Jersey. Similarity of soil and situation, of plants and trees, and consequently of fruits, seeds, insects, &c., are doubtless their inducements. The summer Red-bird, Great Carolina Wren, Pine-creeping Warbler, and many others, are rarely seen in Pennsylvania, or to the northward, though they are common in many parts of West Jersey.

GENUS XLI. ALAUDA. LARK.

SPECIES I. *A. MAGNA*.*

MEADOW LARK.

[Plate XIX. Fig. 2.]

LINN. *Syst.* 289.—*Crescent Stare*, *Arct. Zool.* 330, No. 192.—LATHAM, III., 6, *Var.*
A.—*Le Fer-à-cheval, ou Merle à Collier d'Amerique*, BUFF. III., p. 371.—CATESB.
Car. I., pl. 33.—BARTRAM, p. 290.

THOUGH this well-known species cannot boast of the powers of song which distinguish that "harbinger of day," the Sky Lark of Europe, yet in richness of plumage, as well as in sweetness of voice (as far as his few notes extend), he stands eminently its superior. He differs from the greater part of his tribe in wanting the long straight hind claw, which is probably the reason why he has been classed, by some late naturalists, with the Starlings. But in the particular form of his bill, in his manners, plumage, mode and place of building his nest, nature has clearly pointed out his proper family.

This species has a very extensive range; having myself found them in Upper Canada, and in each of the states from New Hampshire to New Orleans. Mr. Bartram also informs me that they are equally abundant in East Florida. Their favorite places of retreat are pasture fields and meadows, particularly the latter, which have conferred on them their specific name; and no doubt supply them abundantly with the particular seeds and insects on which they feed. They are rarely or never seen in the depth of the woods; unless where, instead of under-wood, the ground is covered with rich grass, as in the Choctaw and Chickasaw countries, where I met with them in considerable numbers in the months of May and June. The extensive and luxuriant prairies between Vincennes and St. Louis also abound with them.

It is probable that in the more rigorous regions of the north they may be birds of passage, as they are partially so here; though I have seen them among the meadows of New Jersey, and those that border the rivers Delaware and Schuylkill, in all seasons; even when the ground

* *Alauda magna*, LINN. *Syst.* I., p. 167, Ed. 10.—GMEL. *Syst.* I., p. 801.—*Merula Americana torquata*, BRISS. *Av.* II., p. 242, No. 15.—(Summer dress.) *Sturnus ludovicianus*, LINN. *Syst.* I., p. 290.—GMEL. *Syst.* I., p. 802.—BRISSON, II., p. 449, 4, t. 42, f. 1.—LATH. *Ind. Orn.* I. 323.—*Etourneau de la Louisiane*, BUFF. III., p. 192.—*Pl. Enl.* 256.—(Winter plumage.)

was deeply covered with snow. There is scarcely a market day in Philadelphia, from September to March, but they may be found in market. They are generally considered, for size and delicacy, little inferior to the quail, or what is here usually called the partridge, and valued accordingly. I once met with a few of these birds in the month of February, during a deep snow, among the heights of the Alleghany between Shippensburgh and Somerset, gleaning on the road, in company with the small Snow-birds. In the states of South Carolina and Georgia, at the same season of the year, they swarm among the rice plantations, running about the yards and out-houses, accompanied by the Kildeers, with little appearance of fear, as if quite domesticated.

These birds, after the building season is over, collect in flocks; but seldom fly in a close compact body; their flight is something in the manner of the grouse and partridge, laborious and steady; sailing, and renewing the rapid action of the wings alternately. When they alight on trees or bushes, it is generally on the tops of the highest branches, whence they send forth a long, clear, and somewhat melancholy note, that in sweetness and tenderness of expression is not surpassed by any of our numerous warblers. This is sometimes followed by a kind of low, rapid chattering, the particular call of the female; and again the clear and plaintive strain is repeated as before. They afford tolerably good amusement to the sportsman, being most easily shot while on wing; as they frequently squat among the long grass, and spring within gunshot. The nest of this species is built generally in, or below, a thick tuft or tussock of grass; it is composed of dry grass, and fine bent laid at bottom, and wound all around, leaving an arched entrance level with the ground; the inside is lined with fine stalks of the same materials, disposed with great regularity. The eggs are four, sometimes five, white, marked with specks and several large blotches of reddish brown, chiefly at the thick end. Their food consists of caterpillars, grub worms, beetles, and grass seeds; with a considerable proportion of gravel. Their general name is the *Meadow Lark*; among the Virginians they are usually called the *Old field Lark*.

The length of this bird is ten inches and a half, extent sixteen and a half; throat, breast, belly, and line from the eye to the nostrils, rich yellow; inside lining and edge of the wing the same; an oblong crescent of deep velvety black ornaments the lower part of the throat; lesser wing-coverts black, broadly bordered with pale ash; rest of the wing feathers light brown, handsomely serrated with black; a line of yellowish white divides the crown, bounded on each side by a stripe of black intermixed with bay, and another line of yellowish white passes over each eye backwards; cheeks bluish white, back and rest of the upper parts beautifully variegated with black, bright bay, and pale ochre: tail wedged, the feathers neatly pointed, the four outer ones on

each side, nearly all white; sides, thighs, and vent pale yellow ochre, streaked with black; upper mandible brown, lower bluish white; eyelids furnished with strong black hairs; legs and feet very large, and of a pale flesh color.

The female has the black crescent more skirted with gray, and not of so deep a black. In the rest of her markings the plumage differs little from that of the male. I must here take notice of a mistake committed by Mr. Edwards in his history of Birds, Vol. VI., p. 123, where, on the authority of a bird dealer of London, he describes the Calandre Lark (a native of Italy and Russia) as belonging also to North America, and having been brought from Carolina. I can say with confidence, that in all my excursions through that and the rest of the Southern States, I never met such a bird, nor any person who had ever seen it. I have no hesitation in believing that the Calandre is not a native of the United States.

SPECIES II. *ALAUDA ALPESTRIS*.*

SHORE LARK.

[Plate V. Fig. 4.]

Alauda alpestris, LINN. *Syst.* 289.—LATH. *Syn.* II., 385.—*Alauda campestris guttata flavo*, BARTRAM, p. 290.—*L'Alouette de Virginie*, BUFF. V., 55.—CATESB. I., 32.†

THIS is the most beautiful of its genus, at least in this part of the world. It is one of our winter birds of passage, arriving from the north in the fall; usually staying with us the whole winter, frequenting sandy plains and open downs, and is numerous in the Southern States, as far as Georgia, during that season. They fly high, in loose scattered flocks; and at these times have a single cry, almost exactly like the Sky-Lark of Britain. They are very numerous in many tracts of New Jersey; and are frequently brought to Philadelphia market. They are then generally very fat, and are considered excellent eating. Their food seems principally to consist of small round compressed black seeds, buckwheat, oats, &c., with a large proportion of gravel. On the flat commons, within the boundaries of the city of Philadelphia, flocks of them

* Of the three species referred by Wilson to *Alauda* this is the only one which belongs to that genus, as restricted by modern ornithologists.

† We add the following synonyms:—*Alauda alpestris*, LINN. *Ed.* 10. *Syst.* I., p. 166.—GMEL. *Syst.* I., p. 800.—LATH. *Ind. Orn.* II., p. 498.—*Alauda flava*, GMEL. *Syst.* I., p. 800, (adult male in breeding dress).—*Alauda Virginiana*, BRISS. III., p. 367, 12.—*Alouette de Siberie*, BUFF. *Pl. Enl.* 650, fig. 2.

are regularly seen during the whole winter. In the stomach of these I have found, in numerous instances, quantities of the eggs or larvæ of certain insects, mixed with a kind of slimy earth. About the middle of March they generally disappear, on their route to the north. Forster informs us, that they visit the environs of Albany Fort, in the beginning of May; but go farther north to breed; that they feed on grass seeds, and buds of the sprig birch, and run into small holes, keeping close to the ground; from whence the natives call them *chi-chup-pi-sue*.* This same species appears also to be found in Poland, Russia, and Siberia in winter, from whence they also retire farther north on the approach of spring; except in the north-east parts, and near the high mountains.†

The length of this bird is seven inches, the extent twelve inches; the forehead, throat, sides of the neck, and line over the eye is of a delicate straw or Naples yellow, elegantly relieved by a bar of black, that passes from the nostril to the eye, below which it falls, rounding, to the depth of three-quarters of an inch; the yellow on the forehead and over the eye is bounded, within, for its whole length, with black, which covers part of the crown; the breast is ornamented with a broad fan-shaped patch of black; this as well as all the other spots of black are marked with minute curves of yellow points; back of the neck, and towards the shoulders a light drab tinged with lake; lesser wing coverts bright cinnamon; greater wing coverts the same, interiorly dusky, and tipped with whitish; back and wings drab-colored, tinged with reddish, each feather of the former having a streak of dusky black down its centre; primaries deep dusky, tipped and edged with whitish; exterior feathers most so; secondaries broadly edged with light drab, and scalloped at the tips; tail forked, black; the two middle feathers, which by some have been mistaken for the coverts, are reddish drab, centred with brownish black; the two outer ones on each side exteriorly edged with white; breast of a dusky vinous tinge, and marked with spots or streaks of the same; the belly and vent white; sides streaked with bay; bill short (Latham, in mistake, says seven inches‡), of a dusky blue color; tongue truncate and bifid; legs and claws black; hind heel very long and almost straight; iris of the eye hazel. One glance at the figure on the plate will give a better idea than the whole of this minute description, which, however, has been rendered necessary by the errors of others. The female has little or no black on the crown; and the yellow on the front is narrow, and of a dirty tinge.

There is a singular appearance in this bird which I have never seen taken notice of by former writers, viz., certain long black feathers, which extend, by equal distances beyond each other, above the eye-

* Phil. Trans. vol. LXII. p. 398.

† Arct. Zool.

‡ Syn. vol. II., p. 385.

brow; these are longer, more pointed, and of a different texture from the rest around them; and the bird possesses the power of erecting them so as to appear as if horned, like some of the Owl tribe. Having kept one of these birds alive for some time I was much amused at this odd appearance; and think it might furnish a very suitable specific appellation, viz., *Alauda cornuta*, or Horned Lark.* These horns become scarcely perceivable after the bird is dead. The head is slightly crested.

Shore Lark and Sky Lark are names by which this species is usually known in different parts of the Union. They are said to sing well; mounting in the air, in the manner of the Song Lark of Europe; but this is only in those countries where they breed. I have never heard of their nests being found within the territory of the United States.

SPECIES III. *ALAUDA RUFA*.*

BROWN LARK.

[Plate XLII. Fig. 4.]

Red Lark, EDW. 297.—*Arct. Zool.* No. 279.—LATHAM, II., 376.—*L'Alouette aux joues brunes de Pensylvanie*, BUFF. V., 58.

IN what particular district of the northern regions this bird breeds, I am unable to say. In Pennsylvania it first arrives from the north about the middle of October; flies in loose scattered flocks; is strongly

* This bird is common to Europe and America, and as many nominal species have been made of it we quote the following synonymes from Prince Musignano's observations in the Journal of the Academy of Natural Sciences of Philadelphia, vol. iv., p. 182-3.

Synonymes of the American specimens:—*Alauda rubra*, GMEL. LATH.—*Alauda ludoviciana*, GMEL. LATH.—*Alauda pensylvanica*, BRISS.—*Farlouzanne*, BUFF. Ois.—*Alouette aux joues brunes de Pensylvanie*, BUFF. Ois.—*Lark from Pennsylvania*, EDW. Glean. pl. 297.—*Red Lark*, PENN. Brit. and *Arct. Zool.* LATH. Syn.—*Louisiana Lark*, LATH. Syn.

Synonymes of the European specimens:—*Anthus aquaticus*, BECHST. MEYER. VIEILL. *Nouv. Dict.* TEMM.—*Alauda spinoletta*, LINN. (Ought not this specific name to be restored?)—*Alauda campestris* β . *spinoletta*, GMEL. LATH.—*Alauda obscura*, GMEL. LATH. (young). *Alauda petrosa*, MONTAGU, *Trans. Linn. Soc. Lond.* (young).—*Anthus rupestris*, NILSSON, *Orn. Succ.*—*Alouette pipi*. (by error) BUFF. *Pl. Enl.* 661, f. 2.—*Meadow Lark*, var. A. LATH. Syn.—*Dusky Lark*, LATH. Syn. (young).—*Anthus montanus*, KOCH. *Bayerische Zool.*—The latter nominal species, as Temminck observes, was formed of an adult male, as it appears during the few days of breeding, when they have a roseate tint on the neck, breast, upper part of the belly and flanks.

attached to flat, newly-ploughed fields, commons, and such like situations; has a feeble note characteristic of its tribe; runs rapidly along the ground; and when the flock takes to wing they fly high, and generally to a considerable distance before they alight. Many of them continue in the neighborhood of Philadelphia all winter, if the season be moderate. In the Southern States, particularly in the lower parts of North and South Carolina, I found these Larks in great abundance in the middle of February. Loose flocks of many hundreds were driving about from one corn field to another; and in the low rice grounds they were in great abundance. On opening numbers of these, they appeared to have been feeding on various small seeds with a large quantity of gravel. On the eighth of April I shot several of these birds in the neighborhood of Lexington, Kentucky. In Pennsylvania they generally disappear, on their way to the north, about the beginning of May, or earlier. At Portland, in the District of Maine, I met with a flock of these birds in October. I do not know that they breed within the United States. Of their song, nest, eggs, &c., we have no account.

The Brown Lark is six inches long, and ten inches and a half in extent; the upper parts brown olive touched with dusky; greater coverts and next superior row lighter; bill black, slender; nostril prominent; chin and line over the eye pale rufous; breast and belly brownish ochre, the former spotted with black; tertials black, the secondaries brown, edged with lighter; tail slightly forked, black; the two exterior feathers marked largely with white; legs dark purplish brown; hind heel long, and nearly straight; eye dark hazel. Male and female nearly alike. Mr. Pennant says that one of these birds was shot near London.

GENUS XLIII. SYLVIA. WARBLER.

SPECIES I. *S. SIALIS*.

BLUE-BIRD.

[Plate III. Fig. 3.]

Le Rouge gorge bleu, BUFFON, v., 212, *Pl. Enl.* 390.—*Blue-Warbler*, LATH. II., 446.
—CATESB. I., 47.—*Motacilla sialis*, LINN. *Syst.* 336.—BARTRAM, p 291.*

THE pleasing manners and sociable disposition of this little bird entitle him to particular notice. As one of the first messengers of spring, bringing the charming tidings to our very doors, he bears his own recommendation always along with him, and meets with a hearty welcome from everybody.

Though generally accounted a bird of passage, yet so early as the middle of February, if the weather be open, he usually makes his appearance about his old haunts, the barn, orchard and fenceposts. Storms and deep snows sometimes succeeding, he disappears for a time; but about the middle of March is again seen, accompanied by his mate, visiting the box in the garden, or the hole in the old apple-tree, the cradle of some generations of his ancestors. "When he first begins his amours," says a curious and correct observer, "it is pleasing to behold his courtship, his solicitude to please and to secure the favor of his beloved female. He uses the tenderest expressions, sits close by her, caresses and sings to her his most endearing warblings. When seated together, if he espies an insect delicious to her taste, he takes it up, flies with it to her, spreads his wing over her and puts it in her mouth."† If a rival makes his appearance (for they are ardent in their loves), he quits her in a moment, attacks and pursues the intruder, as he shifts from place to place, in tones that bespeak the jealousy of his affection, conducts him with many reproofs beyond the extremities of his territory, and returns to warble out his transports of triumph beside his beloved mate. The preliminaries being thus settled, and the spot fixed on, they begin to clean out the old nest, and the rubbish of

* *Motacilla sialis*, LINN. *Syst.* I., p. 187, Ed. 10.—GMEL. *Syst.* I., p. 989.—*Sylvia sialis*, LATH. *Ind. Orn.* II., 522.—VIEILLOT, *Ois. de l'Am. Sept.* pl. 101, male; 102, female; 103, young.—*La Gorge rouge de la Caroline*, BUFF. *Pl. Enl.* 396, fig. 1, male; fig. 2, female.

† Letter from Mr. William Bartram to the author.

the former year, and to prepare for the reception of their future offspring. Soon after this another sociable little pilgrim (*Motacilla domestica*, House Wren) also arrives from the south, and finding such a snug berth pre-occupied, shows his spite, by watching a convenient opportunity, and in the absence of the owner popping in and pulling out sticks; but takes special care to make off as fast as possible.

The female lays five, and sometimes six, eggs, of a pale blue color; and raises two, and sometimes three broods, in a season; the male taking the youngest under his particular care while the female is again sitting. Their principal food are insects, particularly large beetles, and others of the coleopterous kinds that lurk among old dead and decaying trees. Spiders are also a favorite repast with them. In fall they occasionally regale themselves on the berries of the sour gum; and as winter approaches, on those of the red cedar, and on the fruit of a rough hairy vine that runs up and cleaves fast to the trunks of trees. Ripe persimmons are another of their favorite dishes; and many other fruits and seeds which I have found in their stomachs at that season, which, being no botanist, I am unable to particularize. They are frequently pestered with a species of tape-worm, some of which I have taken from their intestines of an extraordinary size, and in some cases in great numbers. Most other birds are also plagued with these vermin; but the Blue-bird seems more subject to them than any I know, except the Woodcock. An account of the different species of vermin, many of which I doubt not are nondescripts, that infest the plumage and intestines of our birds, would of itself form an interesting publication; but as this belongs more properly to the entomologist, I shall only, in the course of this work, take notice of some of the most remarkable; and occasionally represent them in the same plate with those birds on which they are usually found.

The usual spring and summer song of the Blue-bird is a soft, agreeable and oft-repeated warble, uttered with open quivering wings, and is extremely pleasing. In his motions and general character he has great resemblance to the Robin Red-breast of Britain; and had he the brown olive of that bird, instead of his own blue, could scarcely be distinguished from him. Like him he is known to almost every child; and shows as much confidence in man by associating with him in summer, as the other by his familiarity in winter. He is also of a mild and peaceful disposition, seldom fighting or quarrelling with other birds. His society is courted by the inhabitants of the country, and few farmers neglect to provide for him, in some suitable place, a snug little summer house, ready fitted and rent-free. For this he more than sufficiently repays them by the cheerfulness of his song, and the multitude of injurious insects which he daily destroys. Towards fall, that is in the month of October, his song changes to a single plaintive note, as

he passes over the yellow, many-colored woods; and its melancholy air recalls to our minds the approaching decay of the face of nature. Even after the trees are stripped of their leaves, he still lingers over his native fields, as if loth to leave them. About the middle or end of November few or none of them are seen; but with every return of mild and open weather we hear his plaintive note amidst the fields, or in the air, seeming to deplore the devastations of winter. Indeed he appears scarcely ever totally to forsake us; but to follow fair weather through all its journeyings till the return of spring.

Such are the mild and pleasing manners of the Blue-bird, and so universally is he esteemed, that I have often regretted that no pastoral muse has yet arisen in this western woody world, to do justice to his name, and endear him to us still more by the tenderness of verse, as has been done to his representative in Britain, the Robin Red-breast. A small acknowledgment of this kind I have to offer, which the reader I hope will excuse as a tribute to rural innocence.

When winter's cold tempests and snows are no more,
 Green meadows and brown furrowed fields re-appearing,
 The fishermen hauling their shad to the shore,
 And cloud-cleaving geese to the Lakes are a-steering;
 When first the lone butterfly flits on the wing;
 When red glow the maples, so fresh and so pleasing,
 O then comes the Blue-bird, the HERALD OF SPRING!
 And hails with his warblings the charms of the season.

Then loud piping frogs make the marshes to ring;
 Then warm glows the sunshine, and fine is the weather;
 The blue woodland flowers just beginning to spring,
 And, spicewood and sassafras budding together:
 O then to your gardens ye housewives repair!
 Your walks border up; sow and plant at your leisure;
 The Blue-bird will chant from his box such an air,
 That all your hard toils will seem truly a pleasure.

He flits through the orchard, he visits each tree,
 The red flowering peach and the apple's sweet blossoms;
 He snaps up *destroyers* wherever they be,
 And seizes the caitiffs that lurk in their bosoms;
 He drags the vile *grub* from the corn he devours;
 The worms from their webs where they riot and welter;
 His song and his services freely are ours,
 And all that he asks is, in summer a shelter.

The ploughman is pleased when he gleans in his train,
 Now searching the furrows—now mounting to cheer him;
 The gardener delights in his sweet simple strain,
 And leans on his spade to survey and to hear him;

The slow lingering schoolboys forget they'll be chid,
 While gazing intent as he warbles before 'em
 In mantle of sky-blue, and bosom so red,
 That each little loiterer seems to adore him.

When all the gay scenes of the summer are o'er,
 And autumn slow enters so silent and fallow,
 And millions of warblers, that charmed us before,
 Have fled in the train of the sun-seeking swallow;
 The Blue-bird, forsaken, yet true to his home,
 Still lingers, and looks for a milder to-morrow,
 Till forced by the horrors of winter to roam,
 He sings his adieu in a lone note of sorrow.

While spring's lovely season, serene, dewy, warm,
 The green face of earth, and the pure blue of heaven,
 Or love's native music have influence to charm,
 Or sympathy's glow to our feelings is given,
 Still dear to each bosom the Blue-bird shall be;
 His voice, like the thrillings of hope, is a treasure;
 For, through bleakest storms if a calm he but see,
 He comes to remind us of sunshine and pleasure!

The Blue-bird, in summer and fall, is fond of frequenting open pasture fields; and there perching on the stalks of the great *mullein*, to look out for passing insects. A whole family of them are often seen, thus situated, as if receiving lessons of dexterity from their more expert parents, who can espy a beetle crawling among the grass, at a considerable distance; and after feeding on it, instantly resume their former position. But whoever informed Dr. Latham that "this bird is never seen on trees, though it makes its nest in the holes of them!"* might as well have said, that the Americans are never seen in the streets, though they build their houses by the sides of them. For what is there in the construction of the feet and claws of this bird to prevent it from perching? Or what sight more common to an inhabitant of this country than the Blue-bird perched on the top of a peach or apple-tree; or among the branches of those reverend broadarmed chestnut trees, that stand alone in the middle of our fields, bleached by the rains and blasts of ages?

The Blue-bird is six inches and three-quarters in length, the wings remarkably full and broad; the whole upper parts are of a rich sky blue, with purple reflections; the bill and legs are black; inside of the mouth and soles of the feet yellow, resembling the color of a ripe persimmon; the shafts of all the wing and tail feathers are black; throat, neck, breast, and sides partially under the wings, chestnut; wings dusky black at the tips; belly and vent white; sometimes the secondaries are

* Synopsis, v. II., pp. 446-40.

exteriorly light brown, but the bird has in that case not arrived at his full color. The female is easily distinguished by the duller cast of the back, the plumage of which is skirted with light brown, and by the red on the breast being much fainter, and not descending near so low as in the male; the secondaries are also more dusky. This species is found over the whole United States; in the Bahama Islands where many of them winter; as also in Mexico, Brazil, and Guiana.

Mr. Edwards mentions that the specimen of this bird which he was favored with, was sent from the Bermudas; and as these islands abound with the cedar, it is highly probable that many of those birds pass from our continent thence, at the commencement of winter, to enjoy the mildness of that climate as well as their favorite food.

As the Blue-bird is so regularly seen in winter, after the continuance of a few days of mild and open weather, it has given rise to various conjectures as to the place of his retreat. Some supposing it to be in close sheltered thickets, lying to the sun; others the neighborhood of the sea, where the air is supposed to be more temperate, and where the matters thrown up by the waves furnish him with a constant and plentiful supply of food. Others trace him to the dark recesses of hollow trees, and subterraneous caverns, where they suppose he dozes away the winter, making, like Robinson Crusoe, occasional reconnoitering excursions from his castle, whenever the weather happens to be favorable. But amidst the snows and severities of winter I have sought for him in vain in the most favorable sheltered situations of the Middle States; and not only in the neighborhood of the sea, but on both sides of the mountains.* I have never, indeed, explored the depths of caverns in search of him, because I would as soon expect to meet with tulips and butterflies there, as Blue-birds, but among hundreds of woodmen, who have cut down trees of all sorts, and at all seasons, I have never heard one instance of these birds being found so immured in winter; while in the whole of the Middle and Eastern States, the same general observation seems to prevail that the Blue-bird always makes his appearance in winter after a few days of mild and open weather. On the other hand, I have myself found them numerous in the woods of North and South Carolina, in the depth of winter, and I have also been assured by different gentlemen of respectability, who have resided in the islands of Jamaica, Cuba, and the Bahamas and Bermudas, that this very bird is common there in winter. We also find, from the works of Hernandez Piso and others, that it is well known in Mexico, Guiana and Brazil; and if so, the place of its winter retreat is easily ascertained, without

* I speak of the species here *generally*. Solitary individuals are found, particularly among our cedar trees, sometimes in the very depth of winter.

having recourse to all the trumpery of holes and caverns, torpidity, hybernation, and such ridiculous improbabilities.

Nothing is more common in Pennsylvania than to see large flocks of these birds in spring and fall, passing, at considerable heights in the air, from the south in the former, and from the north in the latter season. I have seen, in the month of October, about an hour after sun-rise, ten or fifteen of them descend from a great height and settle on the top of a tall detached tree, appearing, from their silence and sedateness, to be strangers, and fatigued. After a pause of a few minutes they began to dress and arrange their plumage, and continued so employed for ten or fifteen minutes more; then, on a few warning notes being given, perhaps by the leader of the party, the whole remounted to a vast height, steering in a direct line for the south-west. In passing along the chain of the Bahamas towards the West Indies, no great difficulty can occur from the frequency of these islands; nor even to the Bermudas, which are said to be 600 miles from the nearest part of the continent. This may seem an extraordinary flight for so small a bird; but it is nevertheless a fact that it is performed. If we suppose the Blue-bird in this case to fly only at the rate of a mile per minute, which is less than I have actually ascertained him to do over land, ten or eleven hours would be sufficient to accomplish the journey; besides the chances he would have of resting places by the way, from the number of vessels that generally navigate those seas. In like manner two days at most, allowing for numerous stages for rest, would conduct him from the remotest regions of Mexico to any part of the Atlantic States. When the natural history of that part of the continent and its adjacent isles, are better known, and the periods at which its birds of passage arrive and depart, are truly ascertained, I have no doubt but these suppositions will be fully corroborated.

SPECIES II. *SYLVIA CALENDULA*.

RUBY-CROWNED WREN.

[Plate V. Fig. 3.]

Le Roitelet Rubis, BUFF. V., 373.—EDW. 254.—LATH. *Syn.* II., 511.—*Arct. Zool.* 320.—*Regulus cristatus alter vertice rubini coloris*, BARTRAM, p. 292.*

THIS little bird visits us early in the spring from the south, and is generally first found among the maple blossoms, about the beginning of April. These failing, it has recourse to those of the peach, apple and other fruit trees, partly for the tops of the sweet and slender stamina of the flowers, and partly for the winged insects that hover among them. In the middle of summer I have rarely met with these birds in Pennsylvania; and as they penetrate as far north as the country round Hudson's Bay, and also breed there, it accounts for their late arrival here in fall. They then associate with the different species of Titmouse, and the Golden-crested Wren; and are particularly numerous in the month of October and beginning of November in orchards, among the decaying leaves of the apple trees, that at that season are infested with great numbers of small, black, winged insects, among which they make great havoc. I have often regretted the painful necessity one is under of taking away the lives of such inoffensive useful little creatures, merely to obtain a more perfect knowledge of the species; for they appear so busy, so active and unsuspecting, as to continue searching about the same twig, even after their companions have been shot down beside them. They are more remarkably so in autumn; which may be owing to the great number of young and inexperienced birds which are then among them; and frequently at this season I have stood under the tree, motionless, to observe them, while they gleaned among the low branches, sometimes within a foot or two of my head. They are extremely adroit in catching their prey; have only at times a feeble chirp; visit the tops of the tallest trees as well as the lowest bushes; and continue generally for a considerable time among the branches of the same tree, darting about from place to place; appearing, when on the top of a high maple, no bigger than humble-bees.

* The following synonymes may be added :—*Motacilla calendula*, LINN. I., p. 337.—GMEL. *Syst.* I., p. 994.—*Sylvia calendula*, LATH. *Ind. Orn.* II., p. 549.—*Regulus rubincus*, VIEILLLOT, *Ois. de l'Am. Sept.* pl. 104, male; 105, young, given as female.

The Ruby-crowned Wren is four inches long, and six in extent; the upper parts of the head, neck and back are of a fine greenish olive, with a considerable tinge of yellow; wings and tail dusky purplish brown, exteriorly edged with yellow olive; secondaries and first row of wing-coverts edged and tipped with white with a spot of deep purplish brown across the secondaries, just below their coverts; the hind head is ornamented with an oblong lateral spot of vermilion, usually almost hid by the other plumage; round the eye a ring of yellowish white; whole under parts of the same tint; legs dark brown; feet and claws yellow; bill slender, straight, not notched, furnished with a few black hairs at the base; inside of the mouth orange. The female differs very little in its plumage from the male, the colors being less lively, and the bird somewhat less. Notwithstanding my utmost endeavors, I have never been able to discover their nest; though, from the circumstance of having found them sometimes here in summer, I am persuaded that they occasionally breed in Pennsylvania; but I know several birds, no larger than this, that usually build on the extremities of the tallest trees in the woods; which I have discovered from their beginning before the leaves are out; many others, no doubt, choose similar situations; and should they delay building until the woods are thickened with leaves, it is no easy matter to discover them. In Fall they are so extremely fat as almost to dissolve between the fingers as you open them; owing to the great abundance of their favorite insects at that time.

SPECIES III. *SYLVIA MARILANDICA*.

MARYLAND YELLOW-THROAT.

[Plate VI. Fig 1, Male.]

Turdus Trichas, LINN. *Syst.* I., 293.—EDW. 237.—*Yellow-breasted Warbler*, *Arct. Zool.* II., No. 283. Id. 284.—*Le Figuier aux joues noires*, BUFF. V., 292.—*La Fauvette à poitrine jaune de la Louisiane*, BUFF. V., 162. *Pl. Enl.* 709, fig. 2.—LATH. *Syn.* IV., 433, 32.

THIS is one of the humble inhabitants of briars, brambles, alder bushes, and such shrubbery as grows most luxuriantly in low watery situations, and might with propriety be denominated *Humility*, its business or ambition seldom leading it higher than the tops of the underwood. Insects and their larvæ are its usual food. It dives into the deepest of the thicket, rambles among the roots, searches round the stems, examines both sides of the leaf, raising itself on its legs so as to peep into every crevice; amusing itself at times with a very simple, and not disagreeable, song or twitter, *whitititee, whitititee, whitititee*; pausing for half a minute or so, and then repeating its notes as before. It inhabits the whole United States from Maine to Florida, and also Louisiana; and is particularly numerous in the low swampy thickets of Maryland, Pennsylvania and New Jersey. It is by no means shy; but seems deliberate and unsuspicious, as if the places it frequented, or its own diminutiveness, were its sufficient security. It often visits the fields of growing rye, wheat, barley, &c., and no doubt performs the part of a friend to the farmer, in ridding the stalks of vermin, that might otherwise lay waste his fields. It seldom approaches the farmhouse, or city; but lives in obscurity and peace amidst its favorite thickets. It arrives in Pennsylvania about the middle, or last week, of April, and begins to build its nest about the middle of May: this is fixed on the ground, among the dried leaves, in the very depth of a thicket of briars, sometimes arched over, and a small hole left for entrance; the materials are dry leaves and fine grass, lined with coarse hair; the eggs are five, white, or semi-transparent, marked with specks of reddish brown. The young leave the nest about the twenty-second of June; and a second brood is often raised in the same season. Early in September they leave us, returning to the south.

This pretty little species is four inches and three quarters long, and six inches and a quarter in extent; back, wings and tail, green olive,

which also covers the upper part of the neck, but approaches to cinereous on the crown; the eyes are inserted in a band of black, which passes from the front, on both sides, reaching half way down the neck; this is bounded above by another band of white deepening into light blue; throat, breast, and vent brilliant yellow; belly a fainter tinge of the same color; inside coverts of the wings also yellow; tips and inner vanes of the wings dusky brown; tail cuneiform, dusky, edged with olive-green; bill black, straight, slender, of the true *Motacilla* form; though the bird itself was considered as a species of Thrush by Linnaeus, but very properly removed to the genus *Motacilla* by Gmelin; legs flesh colored; iris of the eye dark hazel. The female wants the black band through the eye, has the bill brown, and the throat of a much paler yellow. This last, I have good reason to suspect, has been described by Europeans as a separate species; and that from Louisiana, referred to in the synonymes, appears evidently the same as the former, the chief difference, according to Buffon, being in its wedged tail, which is likewise the true form of our own species; so that this error corrected will abridge the European nomenclature of two species. Many more examples of this kind will occur in the course of our descriptions.

SYLVIA MARILANDICA.

MARYLAND YELLOW-THROAT.

[Plate XVIII. Fig. 4, Female.]

THE male of this species having been represented in Plate VI., fig. 1, accompanied by a particular detail of its manners, I have little farther to add here relative to this bird. I found several of them round Wilmington, North Carolina, in the month of January, along the margin of the river, and by the Cypress swamp, on the opposite side. The individual, from which the figure in the plate was taken, was the actual nurse of the young Cowpen Bunting, which it is represented in the act of feeding.

It is five inches long, and seven in extent; the whole upper parts green olive, something brownish on the neck, tips of the wings and head; the lower parts yellow, brightest on the throat and vent; legs flesh colored. The chief difference between this and the male in the markings of their plumage, is, that the female is destitute of the black bar through the eyes, and the bordering one of pale bluish white.

SPECIES IV. *SYLVIA REGULUS*.

GOLDEN-CRESTED WREN.

[Plate VIII. Fig. 2.]

Motacilla regulus, LINN. *Syst.* I., 338, 48.—LATH. *Syn.* IV., 508, 145.—EDW. 254.

THIS diminutive species is a frequent associate of the one last described, and seems to be almost a citizen of the world at large, having been found not only in North and South America, the West Indies and Europe, but even in Africa and India. The specimen from Europe, in Mr. Peale's collection, appears to be nothing specifically different from the American; and the very accurate description given of this bird by the Count de Buffon, agrees in every respect with ours. Here, as in Europe, it is a bird of passage, making its first appearance in Pennsylvania early in April, among the blossoms of the maple, often accompanied by the Ruby-crowned Wren, which, except in the markings of the head, it very much resembles. It is very frequent among evergreens, such as the pine, spruce, cedar, juniper, &c., and in the fall is generally found in company with the two species of Titmouse, Brown Creeper, and small Spotted Woodpecker. It is an active, unsuspicious, and diligent little creature, climbing and hanging, occasionally, among the branches, and sometimes even on the body of the tree, in search of the larvæ of insects, attached to the leaves and stems, and various kinds of small flies, which it frequently seizes on wing. As it retires still farther north to breed, it is seldom seen in Pennsylvania from May to October; but is then numerous in orchards, feeding among the leaves of the apple trees, which, at that season, are infested with vast numbers of small black winged insects. Its chirp is feeble, not much louder than that of a mouse; though where it breeds the male is said to have a variety of sprightly notes. It builds its nest frequently on the branches of an evergreen, covers it entirely round, leaving a small hole on one side for entrance, forming it outwardly of moss and lichens, and lining it warmly with down. The female lays six or eight eggs, pure white, with a few minute specks of dull red. Dr. Latham, on whose authority this is given, observes, "It seems to frequent the oak trees in preference to all others. I have more than once seen a brood of these in a large oak in the middle of a lawn, the whole little family of which, as soon as able, were in perpetual motion, and gave great pleasure to many who viewed them. The nest of one of these has also been made in a garden

on a fir tree; it was composed of moss, the opening on one side, in shape roundish; it was lined with a downy substance, fixed with small filaments. It is said to sing very melodiously, very like the Common Wren, but weaker."* In Pennsylvania they continue with us from October to December, and sometimes to January.

The Golden-crested Wren is four inches long, and six inches and a half in extent; back a fine yellow olive; hind head and sides of the neck inclining to ash; a line of white passes round the frontlet, extending over and beyond the eye on each side; above this another line or strip of deep black passes in the same manner, extending farther behind; between these two strips of black lies a bed of glossy golden yellow, which being parted a little, exposes another of a bright flame color, extending over the whole upper part of the head; when the little warbler flits among the branches in pursuit of insects, he opens and shuts this golden ornament with great adroitness, which produces a striking and elegant effect; lores marked with circular points of black; below the eye is a rounding spot of dull white; from the upper mandible to the bottom of the ear feathers runs a line of black, accompanied by another of white from the lower mandible; breast light cream color; sides under the wings and vent the same; wings dusky, edged exteriorly with yellow olive; greater wing coverts tipped with white, immediately below which a spot of black extends over several of the secondaries; tail pretty long, forked, dusky, exterior vanes broadly edged with yellow olive; legs brown, feet and claws yellow; bill black, slender, straight, evidently of the *Muscicapa* form, the upper mandible being notched at the point, and furnished at the base with bristles, that reach half way to its point; but what seems singular and peculiar to this little bird, the nostril on each side is covered by a single feather, that much resembles the antennæ of some butterflies, and is half the length of the bill. Buffon has taken notice of the same in the European. Inside of the mouth a reddish orange; claws extremely sharp, the hind one the longest. In the female the tints and markings are nearly the same, only the crown or crest is pale yellow. These birds are numerous in Pennsylvania in the month of October, frequenting bushes that overhang streams of water, alders, briars, and particularly apple trees, where they are eminently useful in destroying great numbers of insects, and are at that season extremely fat.

* Synopsis II., 509.

SPECIES V. *SYLVIA DOMESTICA*.*

HOUSE WREN.

[Plate VIII. Fig. 3.]

Motacilla domestica (*Regulus rufus*), BARTRAM, 291.

THIS well known and familiar bird arrives in Pennsylvania about the middle of April; and about the eighth or tenth of May, begins to build its nest, sometimes in the wooden cornice under the eaves, or in a hollow cherry tree; but most commonly in small boxes, fixed on the top of a pole, in or near the garden, to which he is extremely partial, for the great number of caterpillars and other larvæ with which it constantly supplies him. If all these conveniences are wanting, he will even put up with an old hat, nailed on the weather boards, with a small hole for entrance; and if even this be denied him, he will find some hole, corner or crevice about the house, barn or stable, rather than abandon the dwellings of man. In the month of June, a mower hung up his coat, under a shed, near a barn; two or three days elapsed before he had occasion to put it on again; thrusting his arm up the sleeve he found it completely filled with some rubbish, as he expressed it, and, on extracting the whole mass, found it to be the nest of a Wren completely finished, and lined with a large quantity of feathers. In his retreat he was followed by the little forlorn proprietors, who scolded him with great vehemence for thus ruining the whole economy of their household affairs. The twigs with which the outward parts of the nest are constructed are short and crooked that they may the better hook in with one another, and the hole or entrance is so much shut up to prevent the intrusion of snakes or cats, that it appears almost impossible the body of the bird could be admitted; within this is a layer of fine dried stalks of grass, and lastly feathers. The eggs are six or seven, and sometimes nine, of a red purplish flesh color, innumerable fine grains of that tint being thickly sprinkled over the whole egg. They generally raise two broods in a season; the first about the beginning of June, the second in July.

This little bird has a strong antipathy to cats; for having frequent occasion to glean among the currant bushes, and other shrubbery in the

* *Troglodytes ædon*, VIEILL. *Ois. de l'Am. Sept. pl.* 107.

garden, those lurking enemies of the feathered race often prove fatal to him. A box fitted up in the window of the room where I slept, was taken possession of by a pair of Wrens. Already the nest was built, and two eggs laid, when one day the window being open, as well as the room door, the female Wren venturing too far into the room to reconnoitre, was sprung upon by grimalkin, who had planted herself there for the purpose; and before relief could be given was destroyed. Curious to see how the survivor would demean himself, I watched him carefully for several days. At first he sung with great vivacity for an hour or so, but becoming uneasy, went off for half an hour; on his return he chanted again as before, went to the top of the house, stable, and weeping willow, that she might hear him; but seeing no appearance of her, he returned once more, visited the nest, ventured cautiously into the window, gazed about with suspicious looks, his voice sinking to a low melancholy note as he stretched his little neck about in every direction. Returning to the box he seemed for some minutes at a loss what to do, and soon after went off, as I thought, altogether, for I saw him no more that day. Towards the afternoon of the second day, he again made his appearance, accompanied with a new female, who seemed exceedingly timorous and shy; and who after great hesitation entered the box; at this moment the little widower, or bridegroom, seemed as if he would warble out his very life with ecstasy of joy. After remaining about half a minute in, they both flew off, but returned in a few minutes, and instantly began to carry out the eggs, feathers, and some of the sticks, supplying the place of the two latter with materials of the same sort; and ultimately succeeded in raising a brood of seven young, all of which escaped in safety.

The immense number of insects which this sociable little bird removes from the garden and fruit trees, ought to endear him to every cultivator, even if he had nothing else to recommend him; but his notes, loud, sprightly, tremulous, and repeated every few seconds with great animation, are extremely agreeable. In the heat of summer, families in the country often dine under the piazza, adjoining green canopies of mantling grape vines, gourds, &c., while overhead the trilling vivacity of the Wren, mingled with the warbling mimicry of the Mocking-bird, and the distant softened sounds of numerous other songsters that we shall hereafter introduce to the reader's acquaintance, form a soul-soothing and almost heavenly music, breathing peace, innocence and rural repose. The European, who judges of the song of this species by that of his own Wren (*M. troglodytes*), will do injustice to the former, as in strength of tone, and execution, it is far superior, as well as the bird, is in size, figure and elegance of markings, to the European one. Its manners are also different; its sociability greater. It is no *underground* inhabitant; its nest is differently constructed, the number of its eggs fewer;

it is also migratory; and has the tail and bill much longer. Its food is insects and caterpillars, and while supplying the wants of its young, it destroys, on a moderate calculation, many hundreds a day, and greatly circumscribes the ravages of these vermin. It is a bold and insolent bird against those of the Titmouse or Woodpecker kind that venture to build within its jurisdiction; attacking them without hesitation, though twice its size, and generally forcing them to decamp. I have known him drive a pair of swallows from their newly formed nest, and take immediate possession of the premises, in which his female also laid her eggs and reared her young. Even the Blue-bird, who claims an equal, and sort of hereditary right to the box in the garden, when attacked by this little impertinent, soon relinquishes the contest, the mild placidness of his disposition not being a match for the fiery impetuosity of his little antagonist. With those of his own species, who settle and build near him, he has frequent squabbles; and when their respective females are sitting, each strains his whole powers of song to excel the other. When the young are hatched, the hurry and press of business leave no time for disputing, so true it is that idleness is the mother of mischief. These birds are not confined to the country; they are to be heard on the tops of the houses in the most central part of our cities, singing with great energy. Scarce a house or cottage in the country is without at least a pair of them, and sometimes two; but unless where there is a large garden, orchard, and numerous outhouses, it is not often the case that more than one pair reside near the same spot, owing to their party disputes and jealousies. It has been said by a friend to this little bird, that "the esculent vegetables of a whole garden may, perhaps, be preserved from the depredations of different species of insects, by *ten or fifteen pair* of these small birds,"* and probably they might, were the combination practicable; but such a congregation of Wrens, about one garden, is a phenomenon not to be expected but from a total change in the very nature and disposition of the species.

Having seen no accurate description of this bird in any European publication, I have confined my references to Mr. Bartram and Mr. Peale; but though Europeans are not ignorant of the existence of this bird, they have considered it, as usual, merely as a slight variation from the original stock (*M. troglodytes*), their own Wren; in which they are, as usual, mistaken; the length and bent form of the bill, its notes, migratory habits, long tail, and red eggs, are sufficient specific differences.

The House Wren inhabits the whole of the United States, in all of which it is migratory. It leaves Pennsylvania in September; I have sometimes, though rarely, seen it in the beginning of October. It is

* Barton's Fragments, Part 1., p. 22.

four inches and a half long, and five and three-quarters in extent; the whole upper parts of a deep brown, transversely crossed with black, except the head and neck, which is plain; throat, breast and cheeks light clay-color; belly and vent mottled with black, brown and white; tail long, cuneiform, crossed with black; legs and feet light clay-colored; bill black, long, slightly curved, sharp pointed, and resembling that of the genus *Certhia* considerably; the whole plumage below the surface is bluish ash; that on the rump having large round spots of white, not perceivable unless separated with the hand. The female differs very little in plumage from the male.

SPECIES VI. *SYLVIA TROGLODYTES*?*

WINTER WREN.

[Plate VIII. Fig. 6.]

Motacilla troglodytes? LINN.

THIS little stranger visits us from the north in the month of October, sometimes remaining with us all the winter, and is always observed early in spring on his route back to his breeding place. In size, color, song and manners he approaches nearer to the European Wren (*M. troglodytes*) than any other species we have. During his residence here, he frequents the projecting banks of creeks, old roots, decayed logs, small bushes and rushes near watery places; he even approaches the farm-house, rambles about the wood-pile, creeping among the interstices like a mouse. With tail erect, which is his constant habit, mounted on some projecting point or pinnacle, he sings with great animation. Even in the yards, gardens and outhouses of the city, he appears familiar, and quite at home. In short, he possesses almost all the habits of the European species. He is, however, migratory, which may be owing to the superior coldness of our continent. Never having met with the nest and eggs, I am unable to say how nearly they approximate to those of the former.

I can find no precise description of this bird, as an American species, in any European publication. Even some of our own naturalists seem to have confounded it with another very different bird, the *Marsh*

* Wilson appears to be correct in considering this species the same as the European. The following synonymes may be given: *Motacilla troglodytes*, LINN. *Syst. Ed.* 10, I., 188.—GMEL. *Syst.* I., 993.—*Sylvia troglodytes*, LATH. *Ind. Orn.* II., p. 547.—*Le Roitelet*, BUFF. *Pl. Enl.* 651, fig. 2.

Wren,* which arrives in Pennsylvania from the south in May, builds a globular or pitcher-shaped nest, which it suspends among the rushes and bushes by the river side, lays five or six eggs of a dark fawn color, and departs again in September. But the colors and markings of that bird are very unlike those of the Winter Wren, and its song altogether different. The circumstance of the one arriving from the north as the other returns to the south, and *vice versa*, with some general resemblance between the two, may have occasioned this mistake. They, however, not only breed in different regions, but belong to different genera, the Marsh Wren being decisively a species of *Certhia*, and the Winter Wren a true *Motacilla*. Indeed we have no less than five species of these birds in Pennsylvania, that by a superficial observer would be taken for one and the same; but between each of which, nature has drawn strong, discriminating and indelible lines of separation. These will be pointed out in their proper places.

If this bird, as some suppose, retires only to the upper regions of the country, and mountainous forests, to breed, as is the case with some others, it will account for his early and frequent residence along the Atlantic coast during the severest winters; though I rather suspect that he proceeds considerably to the northward; as the Snow-bird (*F. Hudsonia*), which arrives about the same time with the Winter Wren, does not even breed at Hudson's Bay; but passes that settlement in June, on his way to the northward; how much farther is unknown.

The length of the Winter Wren is three inches and a half, breadth five inches; the upper parts are of a general dark brown, crossed with transverse touches of black, except the upper parts of the head and neck, which are plain; the black spots on the back terminate in minute points of dull white; the first row of wing coverts is also marked with specks of white at the extremities of the black, and tipped minutely with black; the next row is tipped with points of white; the primaries are crossed with alternate rows of black and cream color; inner vanes of all the quills dusky, except the three secondaries next the body; tips of the wings dusky; throat, line over the eye, sides of the neck, ear-feathers and breast, dirty white, with minute transverse touches of a drab or clay color; sides under the wings speckled with dark brown, black, and dirty white; belly and vent thickly mottled with sooty black, deep brown, and pure white, in transverse touches; tail very short, consisting of twelve feathers, the exterior one, on each side, a quarter of an inch shorter, the rest lengthening gradually to the middle ones; legs and feet a light clay color, and pretty stout; but straight, slender, half an inch long, not notched at the point, of a dark brown or black above,

* See Professor Barton's observations on this subject, under the article *Motacilla troglodytes*? "Fragments," &c., p. 18, lb. p. 12.

and whitish below; nostril oblong; eye light hazel. The female wants the points of white on the wing coverts. The food of this bird is derived from that great magazine of so many of the feathered race, *insects and their larvæ*, particularly such as inhabit watery places, roots of bushes, and piles of old timber.

It were much to be wished that the summer residence, nest and eggs, of this bird were precisely ascertained, which would enable us to determine whether it be, what I strongly suspect it is, the same species as the common domestic Wren of Britain.

SPECIES II. *SYLVIA FLAVICOLLIS*.

YELLOW-THROAT WARBLER.

[Plate XII. Fig. 6.]

Yellow-throat Warbler, *Arct. Zool.* p. 400, No. 286.—CATESE. I., 62.—LATH. II., 441.
—*La Mesange grise à gorge jaune*, BUFF. V., 454.—*La gorge jaune de St. Domingue*, *Pl. Enl.* 686, fig. 1.*

THE habits of this beautiful species, like those of the preceding, are not consistent with the shape and construction of its bill; the former would rank it with the Titmouse, or with the Creepers, the latter is decisively that of the Warbler. The first opportunity I had of examining a living specimen of this bird was in the southern parts of Georgia, in the month of February. Its notes which were pretty loud and spirited, very much resembled those of the Indigo-bird. It continued a considerable time on the same pine tree, creeping around the branches and among the twigs, in the manner of the Titmouse, uttering its song every three or four minutes. On flying to another tree it frequently alighted on the body, and ran nimbly up or down, spirally and perpendicularly, in search of insects. I had afterwards many opportunities of seeing others of the same species, and found them all to correspond in these particulars. This was about the 24th of February, and the first of their appearance there that spring, for they leave the United States about three months during winter, and consequently go to no great distance. I had been previously informed that they also pass the summer in Virginia and in the southern parts of Maryland; but they very rarely proceed as far north as Pennsylvania.

This species is five inches and a half in length, and eight and a half

* *Motacilla pensilis*, GMEL. I., p. 960.—*Motacilla flavicollis*, GMEL. *Syst.* I., 959.—*Sylvia pensilis*, LATH. *Ind. Orn.* II., p. 520.—VIEILL. *Ois. de l'Am. Sept.* pl. 72.

broad; the whole back, hind head and rump is a fine light slate color; the tail is somewhat forked, black, and edged with light slate; the wings are also black, the three shortest secondaries broadly edged with light blue; all the wing quills are slightly edged with the same; the first row of wing coverts are tipped and edged with white, the second wholly white, or nearly so; the frontlet, ear feathers, lores, and above the temple, are black; the line between the eye and nostril, whole throat and middle of the breast brilliant golden yellow; the lower eyelid, line over the eye, and spot behind the ear feathers, as well as the whole lower parts, are pure white; the yellow on the throat is bordered with touches of black, which also extend along the sides under the wings; the bill is black, and faithfully represented in the figure; the legs and feet yellowish brown; the claws extremely fine pointed; the tongue rather cartilaginous, and lacerated at the end. The female has the wings of a dingy brown, and the whole colors, particularly the yellow on the throat, much duller; the young birds of the first season are without the yellow.

SPECIES VIII. *SYLVIA CASTANEA*.

BAY-BREASTED WARBLER.

[Plate XIV. Fig. 4.]

Parus peregrinus, the little Chocolate-breasted Titmouse, BARTRAM, p. 292.

THIS very rare species passes through Pennsylvania about the beginning of May, and soon disappears. It has many of the habits of the Titmouse, and all their activity; hanging among the extremity of the twigs, and darting about from place to place, with restless diligence, in search of various kinds of the larvæ of insects. It is never seen here in summer, and very rarely on its return, owing, no doubt, to the greater abundance of foliage at that time, and to the silence and real scarcity of the species. Of its nest and eggs we are altogether uninformed.

The length of this bird is five inches, breadth eleven; throat, breast, and sides under the wings, pale chestnut or bay; forehead, cheeks, line over, and strip through the eye, black; crown deep chestnut; lower parts dull yellowish white; hind head and back streaked with black on a grayish buff ground; wings brownish black, crossed with two bars of white; tail forked, brownish black, edged with ash, the three exterior feathers marked with a spot of white on their inner edges; behind the eye is a broad oblong spot of yellowish white. The female has much less of

the bay color on the breast; the black on the forehead is also less and of a brownish tint. The legs and feet, in both, are dark ash, the claws extremely sharp for climbing and hanging; the bill is black; irides hazel.

The ornithologists of Europe take no notice of this species, and have probably never met with it. Indeed it is so seldom seen in this part of Pennsylvania that few even of our own writers have mentioned it.

I lately received a very neat drawing of this bird, done by a young lady in Middleton, Connecticut, where it seems also to be a rare species.

SPECIES IX. *SYLVIA PENNSYLVANICA*.

CHESTNUT-SIDED WARBLER.

[Plate XIV. Fig. 5.]

LINN. *Syst.* 333.—*Red-throated Flycatcher*, EDW. 301.—*Bloody-side Warbler*, TURTON, *Syst.* I., p. 596.—*La figuier à poitrine rouge*, BUFF. V., 308.—BRISS. *App.* 105.—LATH. II., 490.—*Arct. Zool.* p. 405, No. 298.*

OF this bird I can give but little account. It is one of those transient visitors that pass through Pennsylvania in April and May, on their way farther north to breed. During its stay here, which seldom exceeds a week or ten days, it appears actively engaged among the opening buds and young leaves, in search of insects; has no song but a feeble chirp or twitter; and is not numerous. As it leaves us early in May, it probably breeds in Canada, or perhaps some parts of New England; though I have no certain knowledge of the fact. In a whole day's excursion it is rare to meet with more than one or two of these birds; though a thousand individuals of some species may be seen in the same time. Perhaps they may be more numerous on some other part of the continent.

The length of this species is five inches, the extent seven and three quarters. The front, line over the eye, and ear feathers are pure white, upper part of the head brilliant yellow; the lores, and space immediately below, are marked with a triangular patch of black; the back and hind head is streaked with gray, dusky, black and dull yellow; wings

* Additional synonymes:—*Motacilla icterocephala*, LINN. *Syst.* I., p. 325.—GMEL. *Syst.* I., p. 980.—*Sylvia icterocephala*, LATH. *Ind. Orn.* II., p. 538.—VIEL. *Ois. de l'Am. Sept.* pl. 90.—*Sylvia Pennsylvanica*, GMEL. *Syst.* I., p. 971.—LATH. *Ind. Orn.* II., p. 540.—*Ficedula Canadensis icterocephalas*, BRISS. III., p. 517, 64, t. 27, f. 2.—Id. 8vo., I., p. 451.—*Ficedula Pennsylvanica icterocephalas*, BRISS. *App.* p. 105.—Id. 8vo., I., p. 458, 78.

black, primaries edged with pale blue, the first and second row of coverts broadly tipped with pale yellow, secondaries broadly edged with the same; tail black, handsomely forked, exteriorly edged with ash, the inner webs of the three exterior feathers with each a spot of white; from the extremity of the black at the lower mandible, on each side, a streak of deep reddish chestnut descends along the sides of the neck, and under the wings to the root of the tail; the rest of the lower parts are pure white; legs and feet ash; bill black; irides hazel. The female has the hind head much lighter, and the chestnut on the sides is considerably narrower and not of so deep a tint.

Turton and some other writers have bestowed on this little bird the singular epithet of *bloody-sided*, for which I was at a loss to know the reason, the color of that part being a plain chestnut; till on examining Mr. Edwards's colored figure of this bird in the public library of this city, I found its side tinged with a brilliant blood color. Hence, I suppose, originated the name.

SPECIES X. *SYLVIA PHILADELPHIA*.

MOURNING WARBLER.

[Plate XIV. Fig. 6.]

I HAVE now the honor of introducing to the notice of naturalists and others, a very modest and neat little species, which has hitherto eluded their research. I must also add, with regret, that it is the only one of its kind I have yet met with. The bird from which the figure in the plate was taken was shot in the early part of June, on the border of a marsh, within a few miles of Philadelphia. It was flitting from one low bush to another, very busy in search of insects; and had a sprightly and pleasant warbling song, the novelty of which first attracted my attention. I have traversed the same and many such places, every spring and summer since, in expectation of again meeting with some individual of the species, but without success. I have, however, the satisfaction to say, that the drawing was done with the greatest attention to peculiarity of form, markings and tint of plumage; and the figure on the plate is a good resemblance of the original. I have yet hopes of meeting, in some of my excursions, with the female; and should I be so fortunate, shall represent her in some future volume of the present work, with such further remarks on their manners, &c., as I may then be enabled to make.

There are two species mentioned by Turton to which the present has

some resemblance, viz., *Motacilla mitrata*, or Mitred Warbler, and *M. cucullata*, or Hooded Warbler, both birds of the United States, or more properly a single bird; for they are the same species twice described, namely, the Hooded Warbler. The difference, however, between that and the present is so striking, as to determine this at once to be a very distinct species. The singular appearance of the head, neck and breast, suggested the name.

The Mourning Warbler is five inches long, and seven in extent; the whole back, wings and tail, are of a deep greenish olive, the tips of the wings and the centre of the tail feathers excepted, which are brownish; the whole head is of a dull slate color; the breast is ornamented with a singular crescent of alternate transverse lines of pure glossy white, and very deep black; all the rest of the lower parts are of a brilliant yellow; the tail is rounded at the end; legs and feet a pale flesh color; bill deep brownish black above, lighter below; eye hazel.

SPECIES XI. *SYLVIA SOLITARIA*.

BLUE-WINGED YELLOW WARBLER.

[Plate XV. Fig. 4.]

Parus aureus alis cæruleis, BARTRAM, p. 292.—EDW. pl. 277, upper figure.—*Pine Warbler*, *Arct. Zool.* p. 412, No. 318.

THIS bird has been mistaken for the *Pine Creeper* of Catesby. It is a very different species. It comes to us early in May from the south; haunts thickets and shrubberies, searching the branches for insects; is fond of visiting gardens, orchards and willow trees; of gleaning among blossoms, and currant bushes; and is frequently found in very sequestered woods, where it generally builds its nest. This is fixed in a thick bunch or tussock of long grass, sometimes sheltered by a briar bush. It is built in the form of an inverted cone, or funnel, the bottom thickly bedded with dry beech leaves, the sides formed of the dry bark of strong weeds, lined within with fine dry grass. These materials are not placed in the usual manner *circularly*, but shelving downwards on all sides from the top; the mouth being wide, the bottom very narrow, filled with leaves, and the eggs or young occupying the middle. The female lays five eggs, pure white, with a few very faint dots of reddish near the great end; the young appear the first week in June. I am not certain whether they raise a second brood in the same season.

I have met with several of these nests, always in a retired though open part of the woods, and very similar to each other.

The first specimen of this bird taken notice of by European writers was transmitted, with many others, by Mr. William Bartram to Mr. Edwards, by whom it was drawn and etched in the 277th plate of his Ornithology. In his remarks on this bird he seems at a loss to determine whether it is not the Pine Creeper of Catesby;* a difficulty occasioned by the very imperfect coloring and figure of Catesby's bird. The Pine Creeper, however, is a much larger bird, is of a dark yellow olive above, and orange yellow below; has all the habits of a Creeper, alighting on the trunks of the pine trees, running nimbly round them, and, according to Mr. Abbot, builds a pensile nest. I observed thousands of them in the pine woods of Carolina and Georgia, where they are resident, but have never met with them in any part of Pennsylvania.

This species is five inches and a half long, and seven and a half broad; hind head and whole back a rich green olive; crown and front orange yellow; whole lower parts yellow, except the vent feathers, which are white; bill black above, lighter below: lores black; the form of the bill approximates a little to that of the Finch; wings and tail deep brown, broadly edged with pale slate, which makes them appear wholly of that tint, except at the tips; first and second row of coverts tipped with white, slightly stained with yellow; the three exterior tail feathers have their inner vanes nearly all white; legs pale bluish; feet dirty yellow; the two middle tail feathers are pale slate. The female differs very little in color from the male.

This species very much resembles the Prothonotary Warbler of Pennant and Buffon; the only difference I can perceive on comparing specimens of each, is that the yellow of the Prothonotary is more of an orange tint, and the bird somewhat larger.

* Catesby, Car. vol. i., pl. 61.

SPECIES XII. *SYLVIA CHRYSOPTERA*.
GOLDEN-WINGED WARBLER.

[Plate XV. Fig. 5.]

EDW. 299.—*Le figuier aux ailes dorées*, BUFF. v., 311.—LATH. II., 492.—*Arct. Zool.* 403, No. 295. Ib. No. 296.—*Motacilla chrysoptera*, TURT. *Syst. I.*, 597.—*Motacilla flavifrons*, *Yellow-fronted Warbler*, ID. 601.—*Parus alis aureis*, BARTRAM, p. 292.*

THIS is another spring passenger through the United States to the north. This bird, as well as fig. 4, from the particular form of its bill, ought rather to be separated from the Warblers; or, along with several others of the same kind, might be arranged as a sub-genus, or particular family of that tribe, which might with propriety be called *Worm-eaters*, the *Motacilla vermivora* of Turton having the bill exactly of this form. The habits of these birds partake a good deal of those of the Titmouse; and in their language and action they very much resemble them. All that can be said of this species is, that it appears in Pennsylvania for a few days, about the last of April or beginning of May, darting actively among the young leaves and opening buds, and is rather a scarce species.

The Golden-winged Warbler is five inches long, and seven broad; the crown golden yellow; the first and second row of wing coverts of the same rich yellow; the rest of the upper parts a deep ash, or dark slate color; tail slightly forked, and, as well as the wings, edged with whitish; a black band passes through the eye, and is separated from the yellow of the crown by a fine line of white; chin and throat black, between which and that passing through the eye runs a strip of white, as in the figure; belly and vent white; bill black, gradually tapering to a sharp point; legs dark ash; irides hazel.

Pennant has described this species twice, first as the Golden-winged Warbler, and immediately after as the Yellow-fronted Warbler. See the synonymes at the beginning of this article.

* *Motacilla chrysoptera*, LINN. *Syst. I.*, p. 333.—GMEL. *Syst. I.*, p. 971.—*Motacilla flavifrons*, GMEL. *Syst. I.*, p. 976.—*Sylvia chrysoptera*, LATH. *Ind. Orn. II.*, p. 541.—VIEILL. *Ois. de l'Am. Sept.* pl. 97.—*Sylvia flavifrons*, LATH. *Ind. Orn. II.*, p. 527.

SPECIES XIII. *SYLVIA CITRINELLA*.

BLUE-EYED YELLOW WARBLER.

[Plate XV. Fig. 5.]

Yellow-poll Warbler, LATH. *Syn.* II., p. 515, No. 148.—*Arct. Zool.* p. 402, No 292.—*Le Figuier tacheté*, BUFF. *Ois.* v., p. 285.—*Motacilla æstiva*, TURTON'S *Syst* p. 615.—*Parus luteus*, *Summer Yellow-bird*, BARTRAM, p. 292.*

THIS is a very common summer species, and appears almost always actively employed among the leaves and blossoms of the willows, snow-ball shrub, and poplars, searching after small green caterpillars, which are its principal food. It has a few shrill notes, uttered with emphasis, but not deserving the name of song. It arrives in Pennsylvania about the beginning of May; and departs again for the south about the middle of September. According to Latham it is numerous in Guiana, and is also found in Canada. It is a very sprightly, unsuspicious and familiar little bird; is often seen in and about gardens, among the blossoms of fruit trees and shrubberies; and, on account of its color, is very noticeable. Its nest is built with great neatness, generally in the triangular fork of a small shrub, near, or among, briar bushes. Outwardly it is composed of flax or tow, in thick circular layers, strongly twisted round the twigs that rise through its sides, and lined within with hair and the soft downy substance from the stalks of fern. The eggs are four, or five, of a dull white, thickly sprinkled near the great end with specks of pale brown. They raise two broods in the season. This little bird, like many others, will feign lameness to draw you away from its nest, stretching out his neck, spreading and bending down his tail until it trails along the branch, and fluttering feebly along to draw you after him; sometimes looking back to see if you are following him, and returning back to repeat the same manœuvres in order to attract your attention. The male is most remarkable for this practice.

* Additional synonymes:—*Motacilla æstiva*, GMEL. *Syst.* I., p. 996.—*Sylvia æstiva*, LATH. *Ind. Orn.* II., p. 551.—VIEILL. *Ois. de l'Am. Sept.* pl. 95.—*Motacilla albicollis*, GMEL. *Syst.* I., p. 983, young.—*Sylvia albicollis*, LATH. *Ind. Orn.* II., p. 535, young.—*Ficedula Canadensis*, BRISS. III., p. 492, 51, t. 26, fig. 3, male adult.—*Ficedula dominicensis*, BRISS. III., p. 494, 52, t. 26, f. 5.—*Figuier de Canada*, BUFF. *Pl. Enl.* 58, f. 2, adult male.

The Blue-eyed Warbler is five inches long and seven broad; hind head and back greenish yellow; crown, front and whole lower parts rich golden yellow; breast and sides streaked laterally with dark red; wings and tail deep brown, except the edges of the former and the *inner* vanes of the latter, which are yellow; the tail is also slightly forked; legs a pale clay color; bill and eyelids light blue. The female is of a less brilliant yellow, and the streaks of red on the breast are fewer and more obscure. Buffon is mistaken in supposing No. 1, of Pl. Enl. Plate lviii., to be the female of this species.

SPECIES XIV. *SYLVIA CANADENSIS*.

BLACK-THROATED BLUE WARBLER.

[Plate XV. Fig. 7.]

Motacilla Canadensis, LINN. *Syst.* 336.—*Le figuier bleu*, BUFF. V., 304. *Pl. Enl.* 685, fig. 2.—LATH. *Syn.* II., p. 487, No. 113.—EDW. 252.—*Arct. Zool.* p. 399, No. 285.*

I KNOW little of this bird. It is one of those transient visitors that in the month of April pass through Pennsylvania on its way to the north to breed. It has much of the Flycatcher in its manners, though the form of its bill is decisively that of the Warbler. These birds are occasionally seen for about a week or ten days, viz., from the twenty-fifth of April to the end of the first week in May. I sought for them in the Southern States, in winter, but in vain. It is highly probable that they breed in Canada; but the summer residents among the feathered race, on that part of the continent, are little known, or attended to. The habits of the bear, the deer and beaver, are much more interesting to those people, and for a good substantial reason too, because more *lucrative*; and unless there should arrive an order from England for a cargo of skins of Warblers and Flycatchers, sufficient to make them an object worth speculation, we are likely to know as little of them hereafter as at present.

This species is five inches long, and seven and a half broad, and is wholly of a fine light slate color above; the throat, cheeks, front and upper part of the breast is black; wings and tail dusky black, the primaries marked with a spot of white immediately below their coverts; tail edged with blue; belly and vent white; legs and feet dirty yellow; bill black, and beset with bristles at the base. The female is

* *Sylvia caerulea*, VIEILL. *Ois. de l'Am. Sept.* pl. 80.

more of a dusky ash on the breast; and in some specimens nearly white.

They no doubt pass this way on their return in autumn, for I have myself shot several in that season; but as the woods are then still thick with leaves, they are much more difficult to be seen; and make a shorter stay than they do in spring.

SPECIES XV. *SYLVIA VIRENS*.

BLACK-THROATED GREEN WARBLER.

[Plate XVII. Fig. 3.]

Motacilla virens, GMEL. *Syst.* 1., p. 985.—*Le figuier à cravate noire*, BUFF. v., p. 298.—*Black-throated Green Flycatcher*, EDW. t. 300.—*Green Warbler*, ARCT. Zool. II., No. 297.—LATH. *Syn.* IV., p. 484, 108.—TURTON, *Syst.* p. 607.—*Parus viridis gutture nigro*, the *Green Black-throated Flycatcher*, BARTRAM, p. 292.*

THIS is one of those transient visitors that pass through Pennsylvania, in the latter part of April and beginning of May, on their way to the north to breed. It generally frequents the high branches and tops of trees, in the woods, in search of the larvæ of insects that prey on the opening buds. It has a few singular chirruping notes; and is very lively and active. About the tenth of May it disappears. It is rarely observed on its return in the fall, which may probably be owing to the scarcity of its proper food at that season obliging it to pass with greater haste; or to the foliage, which prevents it and other passengers from being so easily observed. Some few of these birds, however, remain all summer in Pennsylvania, having myself shot three this season, in the month of June; but I have never yet seen their nest.

This species is four inches and three quarters long, and seven broad; the whole back, crown and hind head is of a rich yellowish green; front, cheeks, sides of the breast, and line over the eye, yellow; chin and throat black; sides under the wings spotted with black; belly and vent white; wings dusky black, marked with two white bars; bill black; legs and feet brownish yellow; tail dusky edged with light ash; the three exterior feathers spotted on their inner webs with white. The female is distinguished by having no black on the throat.

* *Sylvia virens*, VIEILL. *Ois. de l'Am. Sept.* pl. 80.

SPECIES XVI. SYLVIA CORONATA.

YELLOW-RUMP WARBLER.

[Plate XVII. Fig. 4.]

Motacilla maculosa,* GMEL. *Syst.* I., p. 984.—*Motacilla coronata*, LINN. *Syst.* I., p. 332, No. 31.—*Le figuier à tête cendrée*,* BUFF. V., p. 291.—*Le Figuier couronné d'or*, Id. V., p. 312.—*Yellow-rump Flycatcher*,* EDW. t. 255.—*Golden-crowned Flycatcher*, Id. t. 298.—*Yellow-rump Warbler*,* ARCT. Zool. II., No. 288.—*Golden-crowned Warbler*, Id. II., No. 294.—LATH. *Syn.* IV., p. 481, No. 104. Id. *Supp.* p. 182. Id. *Syn.* IV. p. 486, No. 11.—TURTON, p. 599. Id. 606.—*Parus cedrus uropygio flavo*, the *Yellow Rump*, BARTRAM, p. 292.—*Parus aurio vertice*, the *Golden-crown Flycatcher*, Id. 292.†

In this beautiful little species we have another instance of the mistakes occasioned by the change of color to which many of our birds are subject. In the present case this change is both progressive and periodical. The young birds of the first season are of a brown olive above, which continues until the month of February and March; about which time it gradually changes into a fine slate color, as in the figure on the plate. About the middle of April this change is completed. I have shot them in all their gradations of change. While in their

* These synonymes are incorrect, they should, according to Prince Musignano, be quoted under *Sylvia magnolia*, see *species* 19.

† As many nominal species have been made of this bird, we shall quote the following additional synonymes from Prince Musignano's *Obs.*—*Motacilla coronata*, LINN. GMEL. adult in summer dress.—*Motacilla canadensis*, sp. 27, LINN. adult in summer dress, unnatural by a band on the breast.—*Motacilla umbria*, GMEL. autumnal.—*Motacilla cincta*, GMEL. adult in summer dress, with the above-mentioned band.—*Motacilla pinguis*, GMEL. autumnal.—*Sylvia coronata*, LATH. adult in summer dress. VIEILL. pl. 78, adult male in summer plumage, pl. 79, young.—*Sylvia umbria*, LATH. autumnal.—*Sylvia cincta*, LATH. adult in summer dress, deviating from nature by having the band on the breast; an error which probably originated in Brisson's figure.—*Sylvia pinguis*, LATH. autumnal.—*Ficedula pensylvanica cinerea navia*, BRISS. adult in summer plumage.—*Ficedula canadensis cinerea*, BRISS. with the false band.—*Fauvette tachetée de la Louisiane*, BUFF. *Pl. Enl.* 709, fig. 1, autumnal.—*Figuier du Mississippi*, BUFF. *Pl. Enl.* 731, f. 2, young autumnal; erroneously quoted by GMELIN and LATHAM under *S. icterocephala*.—*Parus cedrus uropygio flavo*, BARTRAM, autumnal.—*Parus aureo vertice*, BARTRAM, summer dress.—*Parus virginianus*, LINN. GMEL. LATH. BRISS. autumnal.—*Sylvia flavopygia*, VIEILL. autumnal.—*Sylvia xanthorhoa*, VIEILL. *Nouv. Dict.* autumnal.

brown olive dress, the yellow on the sides of the breast and crown is scarcely observable, unless the feathers be parted with the hand ; but that on the rump is still vivid ; the spots of black on the cheek are then also obscured. The difference of appearance, however, is so great, that we need scarcely wonder that foreigners, who have no opportunity of examining the progress of these variations, should have concluded them to be two distinct species ; and designated them as in the above synonymes.

This bird is also a passenger through Pennsylvania. Early in October he arrives from the north, in his olive dress, and frequents the cedar trees, devouring the berries with great avidity. He remains with us three or four weeks, and is very numerous wherever there are trees of the red cedar covered with berries. He leaves us for the south, and spends the winter season among the myrtle swamps of Virginia, the Carolinas and Georgia. The berries of the *Myrica cerifera*, both the large and dwarf kind, are his particular favorites. On those of the latter I found him feeding, in great numbers, near the sea shore, in the district of Maine, in October ; and through the whole of the lower parts of the Carolinas, wherever the myrtles grew, these birds were numerous, skipping about with hanging wings, among the bushes. In those parts of the country they are generally known by the name of Myrtle-birds. Round Savannah, and beyond it as far as the Alatomaha, I found him equally numerous, as late as the middle of March, when his change of color had considerably progressed to the slate hue. Mr. Abbot, who is well acquainted with this change, assured me, that they attain this rich slate color fully before their departure from thence, which is about the last of March, and to the tenth of April. About the middle or twentieth of the same month they appear in Pennsylvania, in full dress, as represented in the plate ; and after continuing to be seen, for a week or ten days, skipping among the high branches and tops of the trees, after those larvæ that feed on the opening buds, they disappear until the next October. Whether they retire to the north, or to the high ranges of our mountains to breed, like many other of our passengers, is yet uncertain. They are a very numerous species, and always associate together in considerable numbers, both in spring, winter and fall.

This species is five inches and a half long, and eight inches broad ; whole back, tail coverts, and hind head, a fine slate color, streaked with black ; crown, sides of the breast, and rump, rich yellow ; wings and tail black, the former crossed with two bars of white, the three exterior feathers of the latter spotted with white ; cheeks and front black ; chin, line over and under the eye, white ; breast light slate, streaked with black extending under the wings ; belly and vent white, the latter spotted with black ; bill and legs black. This is the spring and summer dress of the male ; that of the female of the same seasons differs but

little, chiefly in the colors being less vivid and not so strongly marked with a tincture of brownish on the back.

In the month of October the slate color has changed to a brownish olive, the streaks of black are also considerably brown; and the white is stained with the same color; the tail coverts, however, still retain their slaty hue, the yellow on the crown, and sides of the breast becomes nearly obliterated. Their only note is a kind of *chip*, occasionally repeated. Their motions are quick, and one can scarcely ever observe them at rest.

Though the form of the bill of this bird obliges me to arrange him with the Warblers, yet in his food and all his motions he is decisively a Flycatcher.

On again recurring to the descriptions in Pennant of the "Yellow-rump Warbler,"* "Golden-crowned W.,"† and "Belted W.,"‡ I am persuaded that the whole three have been drawn from the present species.

SYLVIA CORONATA.

YELLOW RUMP.

[Plate XLV. Fig. 3.]

EDWARDS, 255.—*Arct. Zool.* II., p. 400, No. 288.

IN plate 17, fig. 4, this bird is represented in his perfect colors; the present figure exhibits him in his winter dress, as he arrives to us from the north early in September; the former shows him in his spring and summer dress, as he visits us from the south about the twentieth of March. These birds remain with us in Pennsylvania from September until the season becomes severely cold, feeding on the berries of the red cedar; and as December's snows come on they retreat to the lower countries of the Southern States, where in February I found them in great numbers among the myrtles, feeding on the berries of that shrub; from which circumstance they are usually called in that quarter Myrtle-birds. Their breeding place I suspect to be in our northern districts, among the swamps and evergreens so abundant there, having myself shot them in the Great Pine swamp about the middle of May.

They range along our whole Atlantic coast in winter, seeming particularly fond of the red cedar and the myrtle; and I have found them numerous, in October, on the low islands along the coast of New Jersey

* *Arct. Zool.* p. 400, No. 188.

† *Ib.* No. 294.

‡ *Ib.* No. 306.

in the same pursuit. They also dart after flies wherever they can see them, generally skipping about with the wings loose.

Length five inches and a quarter, extent eight inches; upper parts and sides of the neck a dark mouse brown, obscurely streaked on the back with dusky black; lower parts pale dull yellowish white; breast marked with faint streaks of brown; chin and vent white; rump vivid yellow; at each side of the breast, and also on the crown, a spot of fainter yellow; this last not observable without separating the plumage; bill, legs and wings black; lesser coverts tipped with brownish white; tail coverts slate; the three exterior tail feathers marked on their inner vanes with white; a touch of the same on the upper and lower eyelid. Male and female at this season nearly alike. They begin to change about the middle of February, and in four or five weeks are in their slate colored dress, as represented in the figure referred to.

SPECIES XVII. *SYLVIA CÆRULEA*.

CERULEAN WARBLER.

[Plate XVII. Fig. 5.]

THIS delicate little species is now, for the first time, introduced to public notice. Except my friend Mr. Peale, I know of no other naturalist who seems to have hitherto known of its existence. At what time it arrives from the south I cannot positively say, as I never met with it in spring; but have several times found it during summer. On the borders of streams and marshes, among the branches of the poplar, it is sometimes to be found. It has many of the habits of the Flycatcher; though, like the preceding, from the formation of its bill we must arrange it with the Warblers. It is one of our scarce birds in Pennsylvania; and its nest has hitherto eluded my search. I have never observed it after the twentieth of August, and therefore suppose it retires early to the south.

This bird is four inches and a half long, and seven and a half broad; the front and upper part of the head is of a fine verditer blue; the hind head and back of the same color, but not quite so brilliant; a few lateral streaks of black mark the upper part of the back; wings and tail black, edged with sky blue; the three secondaries next the body edged with white, and the first and second row of coverts also tipped with white; tail coverts large, black, and broadly tipped with blue; lesser wing coverts black, also broadly tipped with blue, so as to appear nearly wholly of that tint; sides of the breast spotted or streaked with blue;

belly, chin and throat pure white; the tail is forked, the five lateral feathers on each side with each a spot of white, the two middle more slightly marked with the same; from the eye backwards extends a line of dusky blue; before and behind the eye a line of white; bill dusky above, light blue below; legs and feet light blue.

SPECIES XVIII. *SYLVIA PINUS*.

PINE-CREEPING WARBLER.

[Plate XIX. Fig. 4.]

Pine-Creeper, CATESB. I., 61.

THIS species inhabits the pine woods of the Southern States, where it is resident, and where I first observed it, running along the bark of the pines; sometimes alighting and feeding on the ground, and almost always when disturbed flying up and clinging to the trunks of the trees. As I advanced towards the south it became more numerous. Its note is a simple reiterated *chirrup*, continued for four or five seconds.

Catesby first figured and described this bird; but so imperfectly as to produce among succeeding writers great confusion, and many mistakes as to what particular bird was intended. Edwards has supposed it to be the Blue-winged Yellow Warbler; Latham has supposed another species to be meant; and the worthy Mr. Pennant has been led into the same mistakes; describing the male of one species, and the female of another, as the male and female Pine-Creeper. Having shot and examined great numbers of these birds I am enabled to clear up these difficulties by the following descriptions, which will be found to be correct.

The Pine-creeping Warbler is five and a half inches long, and nine inches in extent; the whole upper parts are of a rich green olive, with a considerable tinge of yellow; throat, sides and breast yellow; wings and tail brown with a slight cast of bluish, the former marked with two bars of white, slightly tinged with yellow; tail forked, and edged with ash; the three exterior feathers marked near the tip with a broad spot of white; middle of the belly and vent feathers white. The female is brown, tinged with olive green on the back; breast dirty white, or slightly yellowish. The bill in both is truly that of a Warbler; and the tongue slender as in the *Motacilla* genus, notwithstanding the habits of the bird.

The food of these birds is the seeds of the pitch pine, and various

kinds of bugs. The nest, according to Mr. Abbot, is suspended from the horizontal fork of a branch, and formed outwardly of slips of grape-vine bark, rotten wood, and caterpillars' webs, with sometimes pieces of hornets' nests interwoven; and is lined with dry pine leaves, and fine roots of plants. The eggs are four, white, with a few dark brown spots at the great end.

These birds, associating in flocks of twenty or thirty individuals, are found in the depth of the pine Barrens; and are easily known by their manner of rising from the ground and alighting on the *body* of the tree. They also often glean among the topmost boughs of the pine trees, hanging, head downwards, like the titmouse.

SPECIES XIX. *SYLVIA MAGNOLIA*.*

BLACK AND YELLOW WARBLER.

[Plate XXIII. Fig. 2, Male.]

THIS bird I first met with on the banks of the Little Miami, near its junction with the Ohio. I afterwards found it among the magnolias, not far from Fort Adams on the Mississippi. These two, both of which happened to be males, are all the individuals I have ever shot of this species; from which I am justified in concluding it to be a very scarce bird in the United States. Mr. Peale, however, has the merit of having been the first to discover this elegant species, which he informs me he found several years ago not many miles from Philadelphia. No notice has ever been taken of this bird by any European naturalist whose works I have examined. Its notes, or rather chirpings, struck me as very peculiar and characteristic; but have no claim to the title of song. It kept constantly among the higher branches, and was very active and restless.

Length five inches, extent seven inches and a half; front, lores, and behind the ear, black; over the eye a fine line of white, and another small touch of the same immediately under; back nearly all black; shoulders thinly streaked with olive; rump yellow; tail coverts jet black; inner vanes of the lateral tail feathers white to within half an inch of the tip where they are black; two middle ones wholly black;

* *Motacilla maculosa*, GMEL. *Syst.* I., p. 984.—*Sylvia maculosa*, LATH. *Ind. Orn.* II., p. 536.—VIEILLOT, *Ois. de l'Am. Sept.* pl. 93.—*Ficedula pensylvanica navia*, BRISS. III., p. 502, 56.—*Le Figuier à tête cendrée*, BUFF. V., p. 291.—*Yellow-rumped Fly-catcher*, EDW. *Glean.* pl. 255.—*Yellow-rumped Warbler*, PENN. *Arct. Zool.* II., 288.—LATH. *Syn.* IV., p. 481, 104.

whole lower parts rich yellow, spotted from the throat downwards with black streaks; vent white; tail slightly forked; wings black, crossed with two broad transverse bars of white; crown fine ash; legs brown; bill black. Markings of the female not known.

SPECIES XX. *SYLVIA BLACKBURNIA*.

BLACKBURNIAN WARBLER.

[Plate XXIII. Fig. 3.]

LATHAM II., p. 461, No. 67.*

THIS is another scarce species in Pennsylvania, making its appearance here about the beginning of May; and again in September on its return, but is seldom seen here during the middle of summer. It is an active silent bird. Inhabits also the state of New York, from whence it was first sent to Europe. Latham has numbered this as a variety of the *Yellow-fronted Warbler*, a very different species. The specimen sent to Europe, and first described by Pennant, appears also to have been a female, as the breast is said to be *yellow*, instead of the brilliant orange with which it is ornamented. Of the nest and habits of this bird I can give no account, as there is not more than one or two of these birds to be found here in a season, even with the most diligent search.

The Blackburnian Warbler is four inches and a half long, and seven in extent; crown black, divided by a line of orange; the black again bounded on the outside by a stripe of rich orange passing over the eye; under the eye a small touch of orange yellow; whole throat and breast rich fiery orange, bounded by spots and streaks of black; belly dull yellow, also streaked with black; vent white; back black, skirted with ash; wings the same, marked with a large lateral spot of white; tail slightly forked; the interior vanes of the three exterior feathers white; cheeks black; bill and legs brown. The female is yellow where the male is orange; the black streaks are also more obscure and less numerous.

* *Motacilla Blackburniæ*, GMEL. *Syst.* I., p. 977.—*Sylvia Blackburniæ*, LATH. *Ind. Orn.* II., p. 527.—VIEILL. *Ois. de l'Am. Sept.* pl. 96.

SPECIES XXI. *SYLVIA AUTUMNALIS*.

AUTUMNAL WARBLER.

[Plate XXIII. Fig. 4.]

THIS plain little species regularly visits Pennsylvania from the north in the month of October, gleaning among the willow leaves; but what is singular, is rarely seen in spring. From the first to the fifteenth of October, they may be seen in considerable numbers almost every day in gardens, particularly among the branches of the weeping willow, and seem exceedingly industrious. They have some resemblance in color to the Pine-creeping Warbler; but do not run along the trunk like that bird; neither do they give a preference to the pines. They are also less. After the first of November they are no longer to be found, unless the season be uncommonly mild. These birds doubtless pass through Pennsylvania in spring, on their way to the north; but either make a very hasty journey, or frequent the tops of the tallest trees; for I have never yet met with one of them in that season; though in October I have seen more than a hundred in an afternoon's excursion.

Length four inches and three quarters, breadth eight inches; whole upper parts olive green, streaked on the back with dusky stripes; tail coverts ash, tipped with olive; tail black, edged with dull white; the three exterior feathers marked near the tip with white; wings deep dusky, edged with olive, and crossed with two bars of white; primaries also tipped, and three secondaries next the body edged, with white; upper mandible dusky brown; lower, as well as the chin and breast, dull yellow; belly and vent white; legs dusky brown; feet and claws yellow; a pale yellow ring surrounds the eye. The males of these birds often warble out some low, but very sweet notes, while searching among the leaves in autumn.

SPECIES XXII. *SYLVIA PROTONOTARIUS*.

PROTHONOTARY WARBLER.

[Plate XXIV. Fig. 3.]

Arct. Zool. p. 410.—BUFFON, v., 316.—LATHAM, II., 494. *Pl. Enl.* 704.

THIS is an inhabitant of the same country as the Painted Bunting; and also a passenger from the south; with this difference, that the bird now before us seldom approaches the house or garden; but keeps among the retired deep and dark swampy woods, through which it flits nimbly in search of small caterpillars; uttering every now and then a few screaming notes, scarcely worthy of notice. They are abundant in the Mississippi and New Orleans territories, near the river; but are rarely found on the high ridges inland.

From the peculiar form of its bill, being roundish and remarkably pointed, this bird might with propriety be classed as a sub-genus, or separate family, including several others, viz., the Blue-winged Yellow Warbler, the Golden-crowned Warbler, the Golden-winged Warbler, the Worm-eating Warbler, and a few more. The bills of all these correspond nearly in form and pointedness, being generally longer, thicker at the base, and more round than those of the genus *Sylvia*, generally. The first mentioned species, in particular, greatly resembles this in its general appearance; but the bill of the Prothonotary is rather stouter, and the yellow much deeper, extending farther on the back; its manners and the country it inhabits are also different.

This species is five inches and a half long, and eight and a half in extent; the head, neck, and whole lower parts (except the vent) are of a remarkably rich and brilliant yellow, slightly inclining to orange; vent white; back, scapulars and lesser wing coverts yellow olive; wings, rump and tail coverts a lead blue; interior vanes of the former black; tail nearly *even*, and black, broadly edged with blue, all the feathers, except the two middle ones, are marked on their inner vanes near the tip with a spot of white; bill long, stout, sharp pointed and wholly black; eyes dark hazel; legs and feet a leaden gray. The female differs in having the yellow and blue rather of a duller tint; the inferiority, however, is scarcely noticeable.

SPECIES XXIII. *SYLVIA VERMIVORA*.

WORM-EATING WARBLER.

[Plate XXIV. Fig. 4.]

Arct. Zool. p. 406, No. 300.—EDWARDS, 305.—LATHAM, II., 499.—*Le Demi-fin mangeur de vers*, BUFFON, V., 325.

THIS is one of the nimblest species of its whole family, inhabiting the same country with the preceding; but extending its migrations much farther north. It arrives in Pennsylvania about the middle of May; and leaves us in September. I have never yet met with its nest; but have seen them feeding their young about the twenty-fifth of June. This bird is remarkably fond of spiders, darting about wherever there is a probability of finding these insects. If there be a branch broken and the leaves withered, it shoots among them in preference to every other part of the tree, making a great rustling in search of its prey. I have often watched its manœuvres while thus engaged and flying from tree to tree in search of such places. On dissection I have uniformly found their stomachs filled with spiders or caterpillars, or both. Its note is a feeble chirp, rarely uttered.

The Worm-eater is five inches and a quarter in length, and eight inches in extent; back, tail, and wings a fine clear olive; tips and inner vanes of the wing quills a dusky brown; tail slightly forked, yet the exterior feathers are somewhat shorter than the middle ones; head and whole lower parts a dirty buff; the former marked with four streaks of black, one passing from each nostril, broadening as it descends the hind head; and one from the posterior angle of each eye; the bill is stout, straight, pretty thick at the base, roundish and tapering to a fine point; no bristles at the side of the mouth; tongue thin, and lacerated at the tip; the breast is most strongly tinged with the orange buff; vent waved with dusky olive; bill blackish above, flesh colored below; legs and feet a pale clay color; eye dark hazel. The female differs very little in color from the male.

On this species Mr. Pennant makes the following remarks:—"Does not appear in Pennsylvania till July in its passage northward. Does not return the same way; but is supposed to go beyond the mountains which lie to the west. This seems to be the case with all the transient vernal visitants of Pennsylvania."* That a small bird should permit

* *Arct. Zool.* p. 406.

the whole spring and half of the summer to pass away before it thought of "passing to the north to breed," is a circumstance one should think would have excited the suspicion of so discerning a naturalist as the author of *Arctic Zoology*, as to its truth. I do not know that this bird breeds to the northward of the United States. As to their returning home by "the country beyond the mountains," this must doubtless be for the purpose of finishing the education of their striplings here, as is done in Europe, by making the *grand tour*. This by the by would be a much more convenient retrograde route for the *ducks* and *geese*; as, like the Kentuckians, they could take advantage of the current of the Ohio and Mississippi, to float down to the southward. Unfortunately, however, for this pretty theory, all our vernal visitants with which I am acquainted, are contented to plod home by the same regions through which they advanced; not even excepting the geese.

SPECIES XXIV. *SYLVIA PEREGRINA*.

TENNESSEE WARBLER.

[Plate XXV. Fig. 2.]

THIS plain little bird has hitherto remained unknown. I first found it on the banks of Cumberland river, in the state of Tennessee, and supposed it to be a rare species, having since met with only two individuals of the same species. It was hunting nimbly among the young leaves, and like all the rest of the family of Worm-eaters, to which by its bill it evidently belongs, seemed to partake a good deal of the habits of the Titmouse. Its notes were few and weak; and its stomach on dissection contained small green caterpillars, and a few winged insects.

As this species is so very rare in the United States, it is most probably a native of a more southerly climate, where it may be equally numerous with any of the rest of its genus. The small Cerulean Warbler (Plate XVII., fig. 5), which in Pennsylvania, and almost all over the Atlantic States, is extremely rare, I found the most numerous of its tribe in Tennessee and West Florida; and the Carolina Wren (Plate XII., fig. 5), which is also scarce to the northward of Maryland, is abundant through the whole extent of country from Pittsburgh to New Orleans.

Particular species of birds, like different nations of men, have their congenial climes and favorite countries; but wanderers are common to both; some in search of better fare; some of adventures; others led by curiosity; and many driven by storms and accident.

The Tennessee Warbler is four inches and three quarters long, and eight inches in extent; the back, rump and tail coverts, are of a rich yellow olive; lesser wings coverts the same; wings deep dusky, edged broadly with yellow olive; tail forked, olive, relieved with dusky; cheeks and upper part of the head inclining to light bluish, and tinged with olive; line from the nostrils over the eye pale yellow, fading into white; throat and breast pale cream color; belly and vent white; legs purplish brown; bill pointed and thicker at the base than those of the *Sylvia* genus generally are; upper mandible dark dusky, lower somewhat paler; eye hazel.

The female differs little, in the color of her plumage, from the male; the yellow line over the eye is more obscure, and the olive not of so rich a tint.

SPECIES XXV. *SYLVIA FORMOSA*.

KENTUCKY WARBLER.

[Plate XXV. Fig. 3.]

THIS new and beautiful species inhabits the country whose name it bears. It is also found generally in all the intermediate tracts between Nashville and New Orleans, and below that as far as the Balize, or mouths of the Mississippi, where I heard it several times, twittering among the high rank grass and low bushes of those solitary and desolate looking morasses. In Kentucky and Tennessee it is particularly numerous, frequenting low damp woods, and builds its nest in the middle of a thick tuft of rank grass, sometimes in the fork of a low bush, and sometimes on the ground; in all of which situations I have found it. The materials are loose dry grass, mixed with the light pith of weeds, and lined with hair. The female lays four, and sometimes six eggs, pure white, sprinkled with specks of reddish. I observed her sitting early in May. This species is seldom seen among the high branches; but loves to frequent low bushes and cane swamps, and is an active sprightly bird. Its notes are loud, and in threes, resembling *tweedle, tweedle, tweedle*. It appears in Kentucky from the south about the middle of April; and leaves the territory of New Orleans on the approach of cold weather; at least I was assured that it does not remain there during the winter. It appeared to me to be a restless, fighting species; almost always engaged in pursuing some of its fellows; though this might have been occasioned by its numbers, and the particular season of spring, when love and jealousy rage with violence in the breasts of the feathered

tenants of the grove; who experience all the ardency of those passions no less than their lord and sovereign man.

The Kentucky Warbler is five inches and a half long, and eight inches in extent; the upper parts are an olive green; line over the eye and partly under it, and whole lower parts, rich brilliant yellow; head slightly crested, the crown deep black, towards the hind part spotted with light ash; lores, and spot curving down the neck, also black; tail nearly *even* at the end, and of a rich olive green; interior vanes of that and the wings dusky; legs an almost transparent pale flesh color.

The female wants the black under the eye, and the greater part of that on the crown, having those parts yellowish. This bird is very abundant in the moist woods along the Tennessee and Cumberland rivers.

SPECIES XXVI. *SYLVIA MINUTA*.

PRAIRIE WARBLER.

[Plate XXV. Fig. 4.]

THIS pretty little species I first discovered in that singular tract of country in Kentucky, commonly called the Barrens. I shot several afterwards in the open woods of the Choctaw nation, where they were more numerous. They seem to prefer these open plains, and thinly wooded tracts; and have this singularity in their manners, that they are not easily alarmed; and search among the leaves the most leisurely of any of the tribe I have yet met with; seeming to examine every blade of grass, and every leaf; uttering at short intervals a feeble *chirr*. I have observed one of these birds to sit on the lower branch of a tree for half an hour at a time, and allow me to come up nearly to the foot of the tree, without seeming to be in the least disturbed, or to discontinue the regularity of its occasional note. In activity it is the reverse of the preceding species; and is rather a scarce bird in the countries where I found it. Its food consists principally of small caterpillars and winged insects.

The Prairie Warbler is four inches and a half long, and six inches and a half in extent; the upper parts are olive, spotted on the back with reddish chestnut; from the nostril over and under the eye, yellow; lores black; a broad streak of black also passes beneath the yellow under the eye; small pointed spots of black reach from a little below that along the side of the neck and under the wings; throat, breast and belly rich yellow; vent cream colored, tinged with yellow;

wings dark dusky olive; primaries and greater coverts edged and tipped with pale yellow; second row of coverts wholly yellow; lesser, olive; tail deep brownish black, lighter on the edges, the three exterior feathers broadly spotted with white.

The female is destitute of the black mark under the eye; has a few slight touches of blackish along the sides of the neck; and some faint shades of brownish red on the back.

The nest of this species is of very neat and delicate workmanship, being pensile, and generally hung on the fork of a low bush or thicket; it is formed outwardly of green moss, intermixed with rotten bits of wood and caterpillars' silk; the inside is lined with extremely fine fibres of grape-vine bark; and the whole would scarcely weigh a quarter of an ounce. The eggs are white, with a few brown spots at the great end. These birds are migratory, departing for the south in October.

SPECIES XXVII. *SYLVIA RARA*.

BLUE-GREEN WARBLER.

[Plate XXVII. Fig. 2.]

THIS new species, the only one of its sort I have yet met with, was shot on the banks of Cumberland river, about the beginning of April; and the drawing made with care immediately after. Whether male or female I am uncertain. It is one of those birds that usually glean among the high branches of the tallest trees, which render it difficult to be procured. It was darting about with great nimbleness among the leaves, and appeared to have many of the habits of the Flycatcher. After several ineffectual excursions in search of another of the same kind, with which I might compare the present, I am obliged to introduce it with this brief account.

The specimen has been deposited in Mr. Peale's museum.

The Blue-green Warbler is four inches and a half long, and seven and a half in extent; the upper parts are verditer, tinged with pale green, brightest on the front and forehead; lores, line over the eye, throat, and whole lower parts very pale cream; cheeks slightly tinged with greenish; bill and legs bright light blue, except the upper mandible, which is dusky; tail forked, and, as well as the wings brownish black; the former marked on the three exterior vanes with white and edged with greenish; the latter having the first and second row of coverts tipped with white. Note a feeble chirp.

SPECIES XXVIII. *SYLVIA RUBRICAPILLA*.

NASHVILLE WARBLER.

[Plate XXVII. Fig. 3.]

THE very uncommon notes of this little bird were familiar to me for several days before I succeeded in obtaining it. These notes very much resembled the breaking of small dry twigs, or the striking of small pebbles of different sizes smartly against each other for six or seven times, and loud enough to be heard at the distance of thirty or forty yards. It was some time before I could ascertain whether the sound proceeded from a bird or an insect. At length I discovered the bird; and was not a little gratified at finding it an entirely new and hitherto undescribed species. I was also fortunate enough to meet afterwards with two others exactly corresponding with the first, all of them being males. These were shot in the state of Tennessee, not far from Nashville. It had all the agility and active habits of its family the Worm-eaters.

The length of this species is four inches and a half, breadth seven inches; the upper parts of the head and neck light ash, a little inclining to olive; crown spotted with deep chestnut in small touches; a pale yellowish ring round the eye; whole lower parts vivid yellow, except the middle of the belly, which is white; back yellow olive, slightly skirted with ash; rump and tail coverts rich yellow olive; wings nearly black, broadly edged with olive; tail slightly forked and very dark olive; legs ash; feet dirty yellow; bill tapering to a fine point, and dusky ash; no white on wings or tail; eye hazel.

SPECIES XXIX. *SYLVIA PUSILLA*.

BLUE YELLOW-BACK WARBLER.

[Plate XXVIII. Fig. 3.]

Parus Americanus, LINN. *Syst.* 341.—*Finch Creeper*, CATESB. I., 64.—LATHAM, II., 558.—*Creeping Titmouse*, ARCT. Zool. 423, No. 326.—*Parus varius*, *Various-colored little Finch Creeper*, BARTRAM, p. 292.*

NOTWITHSTANDING the respectability of the above authorities, I must continue to consider this bird as a species of Warbler. Its habits indeed partake something of the Titmouse; but the form of its bill is decisively that of the *Sylvia* genus. It is remarkable for frequenting the tops of the tallest trees, where it feeds on the small winged insects and caterpillars that infest the young leaves and blossoms. It has a few feeble chirruping notes, scarcely loud enough to be heard at the foot of the tree. It visits Pennsylvania from the south, early in May; is very abundant in the woods of Kentucky; and is also found in the northern parts of the state of New York. Its nest I have never yet met with.

This little species is four inches and a half long, and six inches and a half in breadth; the front, and between the bill and eyes, is black; the upper part of the head and neck a fine Prussian blue; upper part of the back brownish yellow, lower and rump pale blue; wings and tail black, the former crossed with two bars of white, and edged with blue; the latter marked on the inner webs of the three exterior feathers with white, a circumstance common to a great number of the genus; immediately above and below the eye is a small touch of white; the upper mandible is black, the lower, as well as the whole throat and breast, rich yellow, deepening about its middle to orange red, and marked on the throat with a small crescent of black; on the edge of the breast is a slight touch of rufous; belly and vent white; legs dark brown; feet dirty yellow. The female wants both the black and orange on the throat and breast; the blue on the upper parts is also of a duller tint.

* *Parus Americanus*, LINN. *Syst. Ed.* 10, I., p. 190.—GMEL. *Syst.* I., p. 1007.—LATH. *Ind. Orn.* II., p. 571.—*Motacilla americana*, GMEL. *Syst.* I., 960.—*Sylvia americana*, *Ind. Orn.* II., p. 520.—*Motacilla ludoviciana*, GMEL. *Syst.* I., p. 983.—*Sylvia ludoviciana*, LATH. *Ind. Orn.* II., p. 535.—*Figuier cendré de la Caroline*, BUFF. *Pl. Enl.* 731, f. 1.—*Sylvia torquata*, VIEILL. *Ois. de l'Am. Sept.* pl. 99.

SPECIES XXX. *SYLVIA PETECHIA*.

YELLOW RED-POLL WARBLER.

[Plate XXVIII. Fig. 4.]

Red-headed Warbler, TURTON, I., 605.*

THIS delicate little bird arrives in Pennsylvania early in April, while the maples are yet in blossom, among the branches of which it may generally be found feeding on the stamina of the flowers, and on small winged insects. Low swampy thickets are its favorite places of resort. It is not numerous, and its notes are undeserving the name of song. It remains with us all summer; but its nest has hitherto escaped me. It leaves us late in September. Some of them probably winter in Georgia, having myself shot several late in February, on the borders of the Savannah river.

Length of the yellow Red-poll five inches, extent eight; line over the eye, and whole lower parts, rich yellow; breast streaked with dull red; upper part of the head reddish chestnut, which it loses in winter; back yellow olive, streaked with dusky; rump and tail coverts greenish yellow; wings deep blackish brown, exteriorly edged with olive; tail slightly forked, and of the same color as the wings.

The female wants the red cap; and the yellow of the lower parts is less brilliant; the streaks of red on the breast are also fewer and less distinct.

* *Motacilla petechia*, LINN. *Syst.* I., p. 334.—GMEL. *Syst.* I., p. 983.—*Sylvia petechia*, LATH. *Ind. Orn.* II., p. 535.—VIEILL. *Ois. de l'Am. Sept.* pl. 91.—*Ficedula Pensylvanica erythrocephalos*, BRISS. III., p. 488, 49.—*Figuier à tête rouge de Pensylvanie*, BUFF. *Ois.* V., p. 286.—*Red-headed Warbler*, PENN. *Arct. Zool.* II., No. 289.—LATH. *Syn.* IV., p. 479; 39.

SPECIES XXXI. *SYLVIA STRIATA*.

BLACK-POLL WARBLER.

[Plate XXX. Fig. 3, Male.]

LATH. II., p. 460.—*Arct. Zool.* p. 401, No. 290.—TURTON, 600.*

THIS species has considerable affinity to the Flycatchers in its habits. It is chiefly confined to the woods, and even there, to the tops of the tallest trees, where it is described skipping from branch to branch in pursuit of winged insects. Its note is a single *screeep*, scarcely audible from below. It arrives in Pennsylvania about the twentieth of April, and is first seen on the tops of the highest maples, darting about among the blossoms. As the woods thicken with leaves it may be found pretty generally, being none of the least numerous of our summer birds. It is, however, most partial to woods in the immediate neighborhood of creeks, swamps, or morasses, probably from the greater number of its favorite insects frequenting such places. It is also pretty generally diffused over the United States, having myself met with it in most quarters of the Union; though its nest has hitherto defied all my researches.

This bird may be considered as occupying an intermediate station between the Flycatchers and the Warblers; having the manners of the former, and the bill, partially, of the latter. The nice gradations by which nature passes from one species to another, even in this department of the great chain of beings, will for ever baffle all the artificial rules and systems of man. And this truth every fresh discovery must impress more forcibly on the mind of the observing naturalist. These birds leave us early in September.

The Black-poll Warbler is five and a half inches long, and eight and a half in extent; crown and hind head black; cheeks pure white; from each lower mandible runs a streak of small black spots, those on the side larger; the rest of the lower parts white; primaries black, edged with yellow; rest of the wing black, edged with ash; the first and second row of coverts broadly tipped with white; back ash, tinged with yellow ochre, and streaked laterally with black; tail black, edged

* *Motacilla striata*, GMEL. *Syst.* I., p. 976.—*Sylvia striata*, LATH. *Ind. Orn.* II., p. 527.

with ash, the three exterior feathers marked on the inner webs with white; bill black above, whitish below, furnished with bristles at the base; iris hazel; legs and feet reddish yellow.

The female differs very little in plumage from the male.

SYLVIA STRIATA.

BLACK-POLL WARBLER.

[Plate LIV. Fig. 4, Female.]

THIS bird was shot in the same excursion with the Cape May Warbler (*Sylvia maritima*), and its history as far as it is known, will be detailed in the history of that species. See page 209. Of its nest and eggs I am ignorant. It doubtless breeds both here and in New Jersey, having myself found it in both places during the summer. From its habit of keeping on the highest branches of trees it probably builds in such situations, and its nest may long remain unknown to us.

Pennant, who describes this species, says that it inhabits during summer Newfoundland and New York, and is called in the last *Sailor*. This name, for which however no reason is given, must be very local, as the bird itself is one of those silent, shy and solitary individuals that seek the deep retreats of the forest, and are known to few or none but the naturalist.

Length of the female Black-cap five inches and a quarter, extent eight and a quarter; bill brownish black; crown yellow olive streaked with black; back the same, mixed with some pale slate; wings dusky brown, edged with olive; first and second wing coverts tipped with white; tertials edged with yellowish white; tail coverts pale gray; tail dusky, forked, the two exterior feathers marked on their inner vanes with a spot of white; round the eye is a whitish ring; cheeks and sides of the breast tinged with yellow, and slightly spotted with black; chin white, as are also the belly and vent; legs and feet dirty orange.

The young bird of the first season, and the female, as is usually the case, are very much alike in plumage. On their arrival early in April, the black feathers on the crown are frequently seen coming out, intermixed with the former ash-colored ones.

This species has all the agility and many of the habits of the Fly-catcher.

SPECIES XXXII. *SYLVIA AGILIS*.

CONNECTICUT WARBLER.

[Plate XXXIX. Fig. 4.]

THIS is a new species, first discovered in the state of Connecticut, and twice since met with in the neighborhood of Philadelphia. As to its notes or nest, I am altogether unacquainted with them. The different specimens I have shot corresponded very nearly in their markings; two of these were males, and the other undetermined, but conjectured also to be a male. It was found in every case among low thickets, but seemed more than commonly active, not remaining for a moment in the same position. In some of my future rambles I may learn more of this solitary species.

Length five inches and three quarters, extent eight inches; whole upper parts a rich yellow olive; wings dusky brown, edged with olive; throat dirty white, or pale ash; upper part of the breast dull greenish yellow; rest of the lower parts a pure rich yellow; legs long, slender, and of a pale flesh color; round the eye a narrow ring of yellowish white; upper mandible pale brown, lower whitish; eye dark hazel.

Since writing the above I have shot two specimens of a bird which in every particular agrees with the above, except in having the throat of a dull buff color instead of pale ash; both of these were females, and I have little doubt but they are of the same species with the present, as their peculiar activity seemed exactly similar to the males above described.

These birds do not breed in the lower parts of Pennsylvania, though they probably may be found in summer in the alpine swamps and northern regions, in company with a numerous class of the same tribe that breed in these unfrequented solitudes.

SPECIES XXXIII. *SYLVIA LEUCOPTERA*.*

PINE-SWAMP WARBLER.

[Plate XLIII. Fig. 4.]

THIS little bird is for the first time figured or described. Its favorite haunts are in the deepest and gloomiest pine and hemlock swamps of our mountainous regions, where every tree, trunk, and fallen log is covered with a luxuriant coat of moss, that even mantles over the surface of the ground, and prevents the sportsman from avoiding a thousand holes, springs and swamps, into which he is incessantly plunged. Of the nest of this bird I am unable to speak. I found it associated with the Blackburnian Warbler, the Golden-crested Wren, Ruby-crowned Wren, Yellow Rump, and others of that description, in such places as I have described, about the middle of May. It seemed as active in fly-catching as in searching for other insects, darting nimbly about among the branches, and flirting its wings; but I could not perceive that it had either note or song. I shot three, one male and two females. I have no doubt that they breed in those solitary swamps, as well as many other of their associates.

The Pine-swamp Warbler is four inches and a quarter long, and seven inches and a quarter in extent; bill black, not notched, but furnished with bristles; upper parts a deep green olive, with slight bluish reflections, particularly on the edges of the tail and on the head; wings dusky, but so broadly edged with olive green as to appear wholly of that tint; immediately below the primary coverts there is a single triangular spot of yellowish white; no other part of the wing is white; the three exterior tail feathers with a spot of white on their inner vanes; the tail is slightly forked; from the nostrils over the eye extends a fine line of white, and the lower eyelid is touched with the same tint; lores blackish; sides of the neck and auriculars green olive; whole lower parts pale yellow ochre, with a tinge of greenish, duskiest on the throat; legs long and flesh colored.

The plumage of the female differs in nothing from that of the male.

* Wilson first called this bird *pusilla*, but that name being preoccupied, he changed it in the index to *leucoptera*; this latter name is also preoccupied, and Prince Musignano has proposed that it should be called *S. sphagnosa*.

BLUE-MOUNTAIN WARBLER.

[Plate XLIV. Fig. 2, Male.]

THIS new species was first discovered near that celebrated ridge, or range of mountains, with whose name I have honored it. Several of these solitary Warblers remain yet to be gleaned up from the airy heights of our alpine scenery, as well as from the recesses of our swamps and morasses, whither it is my design to pursue them by every opportunity. Some of these I believe rarely or never visit the lower cultivated parts of the country; but seem only at home among the glooms and silence of those dreary solitudes. The present species seems of that family, or subdivision of the Warblers, that approach the Flycatcher, darting after flies wherever they see them, and also searching with great activity among the leaves. Its song was a feeble screech, three or four times repeated.

This species is four inches and three-quarters in length; the upper parts a rich yellow olive; front, cheeks and chin yellow, also the sides of the neck; breast and belly pale yellow, streaked with black or dusky; vent plain pale yellow; wings black, first and second row of coverts broadly tipped with pale yellowish white; tertials the same; the rest of the quills edged with whitish; tail black, handsomely rounded, edged with pale olive; the two exterior feathers, on each side, white on the inner vanes from the middle to the tips, and edged on the outer side with white; bill dark brown; legs and feet purple brown; soles yellow; eye dark hazel.

This was a male. The female I have never seen.

* Prince Musignano in his Synopsis of the Birds of the United States, see Ann. Lyc. Nat. Hist. N. Y., considers this as the *Motacilla tigrina*, Gmel. Syst. I., p. 985. If this be correct the following synonymes may be quoted:—*Sylvia tigrina*, LATH. Ind. Orn. II., p. 537.—VIEILL. Ois. de l'Am. Sept. pl. 94.—*Ficedula Canadensis fusca*, BRISS. III., p. 515, 63, t. 27, f. 4.—Id. 8vo. I., p. 451.—*Le Figuier tacheté de jaune*, BUFF. V., p. 293.—*Spotted Yellow Flycatcher*, Arct. Zool. II., No. 302.—EDW. pl. 257.—LATH. Syn. IV., p. 482, 106.

SPECIES XXXV. *SYLVIA PARUS*.
HEMLOCK WARBLER.

[Plate XLIV. Fig. 3.]

THIS is another nondescript, first met with in the Great Pine Swamp, Pennsylvania. From observing it almost always among the branches of the hemlock trees, I have designated it by that appellation, the markings of its plumage not affording me a peculiarity sufficient for a specific name. It is a most lively and active little bird, climbing among the twigs, and hanging like a Titmouse on the branches; but possessing all the external characters of the Warblers. It has a few low and very sweet notes, at which times it stops and repeats them for a short time, then darts about as before. It shoots after flies to a considerable distance; often begins at the lower branches, and hunts with great regularity and admirable dexterity, upwards to the top, then flies off to the next tree, at the lower branches of which it commences hunting upwards as before.

This species is five inches and a half long, and eight inches in extent; bill black above, pale below; upper parts of the plumage black, thinly streaked with yellow olive; head above yellow, dotted with black; line from the nostril over the eye, sides of the neck and whole breast rich yellow; belly paler, streaked with dusky; round the breast some small streaks of blackish; wing black, the greater coverts and next superior row broadly tipped with white, forming two broad bars across the wing; primaries edged with olive, tertials with white; tail coverts black, tipped with olive; tail slightly forked, black, and edged with olive; the three exterior feathers altogether white on their inner vanes; legs and feet dirty yellow; eye dark hazel; a few bristles at the mouth; bill not notched.

This was a male. Of the female I can at present give no account.

SPECIES XXXVI. *SYLVIA MARITIMA*.

CAPE-MAY WARBLER.

[Plate LIV. Fig. 3, Male.]

THIS new and beautiful little species was discovered in a maple swamp, in Cape May county, not far from the coast, by Mr. George Ord of this city, who accompanied me on a shooting excursion to that quarter in the month of May last. Through the zeal and activity of this gentleman I succeeded in procuring many rare and elegant birds among the sea islands and extensive salt marshes that border that part of the Atlantic; and much interesting information relative to their nests, eggs, and particular habits. I have also at various times been favored with specimens of other birds from the same friend, for all which I return my grateful acknowledgments.

The same swamp that furnished us with this elegant little stranger, and indeed several miles around it, were ransacked by us both, for another specimen of the same; but without success. Fortunately it proved to be a male, and being in excellent plumage, enabled me to preserve a faithful portrait of the original.

Whether this be a summer resident in the lower parts of New Jersey, or merely a transient passenger to a more northern climate, I cannot with certainty determine. The spring had been remarkably cold, with long and violent north-east storms, and many winter birds, as well as passengers from the south, still lingered in the woods as late as the twentieth of May, gleaning, in small companies, among the opening buds and infant leaves, and skipping nimbly from twig to twig, which was the case with the bird now before us when it was first observed. Of its notes, or particular history, I am equally uninformed.

The length of this species is five inches and a half, extent eight and a half; bill and legs black; whole upper part of the head deep black; line from the nostril over the eye, chin and sides of the neck rich yellow; ear feathers orange, which also tints the back part of the yellow line over the eye; at the anterior and posterior angle of the eye is a small touch of black; hind head and whole back, rump and tail coverts yellow olive, thickly streaked with black; the upper exterior edges of several of the greater wing coverts are pure white, forming a broad bar on the wing, the next superior row being also broadly tipped with white;

rest of the wing dusky, finely edged with dark olive yellow; throat and whole breast rich yellow, spreading also along the sides under the wings, handsomely marked with spots of black running in chains; belly and vent yellowish white; tail forked, dusky black, edged with yellow olive, the three exterior feathers on each side marked on their inner vanes with a spot of white. The yellow on the throat and sides of the neck reaches nearly round it, and is very bright.

GENUS XLIV. PIPRA. MANAKIN.

SPECIES. *PIPRA POLYGLOTTA*.

YELLOW-BREASTED CHAT.

[Plate VI. Fig. 2.]

Muscicapa viridis, GMEL. *Syst.* I., 936.—*Le Merle vert de la Caroline*, BUFFON, III., 396.—*Chattering Flycatcher*, ARCT. *Zool.* II., No. 266.—LATH. *Syn.* III., 350, 48.—*Garrulus Australis*, BARTRAM, 290.*

THIS is a very singular bird. In its voice and manners, and the habit it has of keeping concealed, while shifting and vociferating around you, it differs from most other birds with which I am acquainted; and has considerable claims to originality of character. It arrives in Pennsylvania about the first week in May, and returns to the south again as soon as its young are able for the journey, which is usually about the middle of August; its term of residence here being scarcely four months. The males generally arrive several days before the females, a circumstance common with many other of our birds of passage.

When he has once taken up his residence in a favorite situation, which is almost always in close thickets of hazel, brambles, vines, and thick underwood, he becomes very jealous of his possessions, and seems offended at the least intrusion; scolding every passenger as soon as they come within view, in a great variety of odd and uncouth monosyllables, which it is difficult to describe, but which may be readily imitated so as to deceive the bird himself, and draw him after you for half a quarter of a mile at a time, as I have sometimes amused myself in doing, and frequently without once seeing him. On these occasions his responses are constant and rapid, strongly expressive of anger and anxiety; and while the bird itself remains unseen, the voice shifts from place to place, among the bushes, as if it proceeded from a spirit. First are heard a repetition of short notes, resembling the whistling of

* *Ictera dumicola*, VIEILL. *Ois. de l'Am. Sept.* pl. 55.

the wings of a duck or teal, beginning loud and rapid, and falling lower and slower till they end in detached notes; then a succession of others, something like the barking of young puppies, is followed by a variety of hollow guttural sounds, each eight or ten times repeated, more like those proceeding from the throat of a quadruped than that of a bird; which are succeeded by others not unlike the mewing of a cat, but considerably hoarser. All these are uttered with great vehemence, in such different keys, and with such peculiar modulations of voice, as sometimes to seem at a considerable distance and instantly as if just beside you; now on this hand, now on that; so that from these manœuvres of ventriloquism you are utterly at a loss to ascertain from what particular spot or quarter they proceed. If the weather be mild and serene, with clear moonlight, he continues gabbling in the same strange dialect, with very little intermission, during the whole night, as if disputing with his own echoes; but probably with a design of inviting the passing females to his retreat; for when the season is farther advanced they are seldom heard during the night.

About the middle of May they begin to build. Their nest is usually fixed in the upper part of a bramble bush, in an almost impenetrable thicket; sometimes in a thick vine or small cedar; seldom more than four or five feet from the ground. It is composed outwardly of dry leaves, within these are laid thin strips of the bark of grape-vines, and the inside is lined with fibrous roots of plants, and fine dry grass. The female lays four eggs, slightly flesh colored, and speckled all over with spots of brown or dull red. The young are hatched in twelve days; and make their first excursion from the nest about the second week in June. A friend of mine, an amateur in Canary birds, placed one of the Chat's eggs under a hen Canary, who brought it out; but it died on the second day; though she was so solicitous to feed and preserve it, that her own eggs, which required two days more sitting, were lost through her attention to this.

While the female of the Chat is sitting, the cries of the male are still more loud and incessant. When once aware that you have seen him he is less solicitous to conceal himself; and will sometimes mount up into the air, almost perpendicularly to the height of thirty or forty feet, with his legs hanging; descending, as he rose, by repeated jerks, as if highly irritated, or as is vulgarly said "dancing mad." All this noise and gesticulation we must attribute to his extreme affection for his mate and young; and when we consider the great distance which in all probability he comes, the few young produced at a time, and that seldom more than once in the season, we can see the wisdom of Providence very manifestly in the ardency of his passions.

Catesby seems to have first figured the Yellow-breasted Chat; and the singularity of its manners has not escaped him. After repeated

attempts to shoot one of them, he found himself completely baffled; and was obliged, as he himself informs us, to employ an Indian for that purpose, who did not succeed without exercising all his ingenuity. Catesby also observed its dancing manœuvres, and supposed that it always flew with its legs extended; but it is only in these paroxysms of rage and anxiety that this is done, as I have particularly observed.

The food of these birds consists chiefly of large black beetles, and other coleopterous insects; I have also found whortleberries frequently in their stomach, in great quantities; as well as several other sorts of berries. They are very numerous in the neighborhood of Philadelphia, particularly on the borders of rivulets, and other watery situations, in hedges, thickets, &c., but are seldom seen in the forest, even where there is underwood. Catesby indeed asserts, that they are only found on the banks of large rivers, two or three hundred miles from the sea; but though this may be the case in South Carolina, yet in Maryland and New Jersey, and also in New York, I have met with these birds within two hours' walk of the sea, and in some places within less than a mile of the shore. I have not been able to trace him to any of the West India islands; though they certainly retire to Mexico, Guiana, and Brazil, having myself seen skins of these birds in the possession of a French gentleman, which were brought from the two latter countries.

By recurring to the synonymes at the beginning of this article, it will be perceived how much European naturalists have differed in classing this bird. That the judicious Pennant, Gmelin, and even Dr. Latham, however, should have arranged it with the Flycatchers, is certainly very extraordinary; as neither in the particular structure of its bill, tongue, feet, nor in its food or manners, has it any affinity whatever to that genus. Some other ornithologists have removed it to the Tanagers; but the bill of the Chat, when compared with that of the Summer Red-bird in the same plate, bespeaks it at once to be of a different tribe. Besides, the Tanagers seldom lay more than two or three eggs—the Chat usually four; the former build on trees; the latter in low thickets. In short, though this bird will not exactly correspond with any known genus, yet the form of its bill, its food, and many of its habits, would almost justify us in classing it with the genus *Pipra* (Manakin), to which family it seems most nearly related.

The Yellow-breasted Chat is seven inches long, and nine inches in extent; the whole upper parts are of a rich and deep olive green, except the tips of the wings, and interior vanes of the wing and tail feathers, which are dusky brown; the whole throat and breast is of a most brilliant yellow, which also lines the inside of the wings, and spreads on the sides immediately below; the belly and vent are white; the front slate-colored, or dull cinereous; lores black; from the nostril a line of white extends to the upper part of the eye, which it nearly encircles; another

spot of white is placed at the base of the lower mandible; the bill is strong, slightly curved, sharply ridged on the top, compressed, overhanging a little at the tip, not notched, pointed, and altogether black; the tongue is tapering, more fleshy than those of the *Muscicapa* tribe, and a little lacerated at the tip; the nostril is oval, and half covered with an arching membrane; legs and feet light blue, hind claw rather the strongest, the two exterior toes united to the second joint.

The female may be distinguished from the male by the black and white adjoining the eye being less intense or pure than in the male; and in having the inside of the mouth of a dirty flesh color, which in the male is black; in other respects their plumage is nearly alike.

GENUS XLV. PARUS. TITMOUSE.

SPECIES I. *P. ATRICAPILLUS*.

BLACK-CAPPED TITMOUSE.

[Plate VIII. Fig. 4.]

Parus atricapillus, LINN. *Syst.* I., 341, 6.—GMEL. *Syst.* I., 1008.—*La Mesange à tête noire de Canada*, BUFFON, V., 408.—*Canada Titmouse*, ARCT. Zool. II., No. 328.—LATH. *Syn.* IV., 542, 9.

THIS is one of our resident birds, active, noisy and restless, hardy beyond any of his size, braving the severest cold of our continent as far north as the country round Hudson's Bay, and always appearing most lively in the coldest weather. The males have a variety of very sprightly notes, which cannot indeed be called a song, but rather a lively, frequently repeated, and often varied twitter. They are most usually seen during the fall and winter, when they leave the depth of the woods, and approach nearer to the scenes of cultivation. At such seasons they abound among evergreens, feeding on the seeds of the pine tree; they are also fond of sunflower seeds, and associate in parties of six, eight, or more, attended by the two species of Nuthatch already described, the Crested Titmouse, Brown Creeper, and small Spotted Woodpecker; the whole forming a very nimble and restless company, whose food, manners and dispositions are pretty much alike. About the middle of April they begin to build, choosing the deserted hole of a squirrel or Woodpecker, and sometimes with incredible labor digging out one for themselves. The female lays six white eggs, marked with minute specks of red; the first brood appears about the beginning of June, and the second towards the end of July; the whole of the family

continue to associate together during winter. They traverse the woods in regular progression from tree to tree, tumbling, chattering and hanging from the extremities of the branches, examining about the roots of the leaves, buds, and crevices of the bark for insects and their larvæ. They also frequently visit the orchards, particularly in fall, the sides of the barn and barn-yard in the same pursuit, trees in such situations being generally much infested with insects. We therefore with pleasure rank this little bird among the farmer's friends, and trust our rural citizens will always recognise him as such.

This species has a very extensive range; it has been found on the western coast of America, as far north as lat. 62°; it is common at Hudson's Bay, and most plentiful there during winter, as it then approaches the settlements in quest of food. Protected by a remarkably thick covering of long soft downy plumage, it braves the severest cold of those northern regions.

The Black-capped Titmouse is five inches and a half in length, and six and a half in extent; throat and whole upper part of the head and ridge of the neck black; between these lines a triangular patch of white ending at the nostril; bill black and short, tongue truncate; rest of the upper parts lead colored or cinereous, slightly tinged with brown, wings edged with white; breast, belly and vent yellowish white; legs light blue; eyes dark hazel. The male and female are nearly alike. The figure in the plate renders any further description unnecessary.

The upper parts of the head of the young are for some time of a dirty brownish tinge; and in this state they agree so exactly with the *Parus Hudsonicus*,* described by Latham, as to afford good grounds for suspecting them to be the same.

These birds sometimes fight violently with each other, and are known to attack young and sickly birds that are incapable of resistance, always directing their blows against the skull. Being in the woods one day, I followed a bird for some time, the singularity of whose notes surprised me. Having shot him from off the top of a very tall tree, I found it to be the Black-headed Titmouse, with a long and deep indentation in the cranium, the skull having been evidently at some former time driven in, and fractured, but was now perfectly healed. Whether or not the change of voice could be owing to this circumstance I cannot pretend to decide.

* Hudson Bay Titmouse, Synopsis, II., 557.

SPECIES II. *PARUS BICOLOR*.

CRESTED TITMOUSE.

[Plate VIII. Fig. 5.]

Parus bicolor, LINN. *Syst.* I., 544, 1.—*La Mesange huppée de la Caroline*, BUFF. V., 451.—*Toupet Titmouse*, *Arct. Zool.* I., No. 324.—LATH. *Syn.* IV., 544, 11.

THIS is another associate of the preceding species; but more noisy, more musical, and more suspicious, though rather less active. It is, nevertheless, a sprightly bird, possessing a remarkable variety in the tones of its voice, at one time not much louder than the squeaking of a mouse, and in a moment after whistling aloud, and clearly, as if calling a dog; and continuing this dog-call through the woods for half an hour at a time. Its high, pointed crest, or as Pennant calls it, *toupet*, gives it a smart and not inelegant appearance. Its food corresponds with that of the foregoing; it possesses considerable strength in the muscles of its neck, and is almost perpetually digging into acorns, nuts, crevices, and rotten parts of the bark, after the larvæ of insects. It is also a constant resident here. When shot at and wounded, it fights with great spirit. When confined to a cage it soon becomes familiar, and will subsist on hemp-seed, cherry-stones, apple seeds, and hickory nuts, broken and thrown in to it. However, if the cage be made of willows, and the bird not much hurt, he will soon make his way through them. The great concavity of the lower side of the wings and tail of this genus of birds, is a strong characteristic, and well suited to their short irregular flight.

This species is also found over the whole United States; but is most numerous towards the north. It extends also to Hudson's Bay; and, according to Latham, is found in Denmark, and in the southern parts of Greenland, where it is called *Avingarsak*. If so, it probably inhabits the continent of North America, from sea to sea.

The Crested Titmouse is six inches long, and seven inches and a half in extent; the whole upper parts a dull cinereous, or lead color, except the front, which is black, tinged with reddish; whole lower parts dirty white, except the sides under the wings, which are reddish orange; legs and feet light blue; bill black, short and pretty strong; wing feathers relieved with dusky on their inner vanes; eye dark hazel; lores white; the head elegantly ornamented with a high, pointed, almost upright crest; tail a little forked, considerably concave below, and of the same

color above as the back; tips of the wings dusky; tongue very short, truncate, and ending in three or four sharp points. The female cannot be distinguished from the male by her plumage, unless in its being something duller, for both are equally marked with reddish orange on the sides under the wings, which some foreigners have made the distinguishing mark of the male alone.

The nest is built in a hollow tree, the cavity often dug by itself; the female begins to lay early in May; the eggs are usually six, pure white, with a few very small specks of red near the great end. The whole family, in the month of July, hunt together, the parents keeping up a continual chatter, as if haranguing and directing their inexperienced brood.

GENUS XLVI. HIRUNDO. SWALLOW.

SPECIES I. *H. PURPUREA*.

PURPLE MARTIN.

[Plate XXXIX. Fig. 1, Male. Fig. 2, Female.]

LATH. *Syn.* IV., p. 574, 21. Ibid. IV., p. 575, 23.—CATESB. *Car.* I., 51.—*Arct. Zool.* II., No. 333.—*Hirondelle bleue de la Caroline*, BUFF. VI., p. 674. *Pl. Enl.* 722.—*Le Martinet couleur de pourpre*, BUFF. VI., p. 676.—TURT. *Syst.* 629.—EDW. 120.—*Hirundo subis*, LATH. IV., p. 575-24.*

THIS well known bird is a general inhabitant of the United States, and a particular favorite wherever he takes up his abode. I never met with more than one man who disliked the Martins and would not permit them to settle about his house. This was a penurious close-fisted German, who hated them because, as he said, "they eat his *peas*." I told him he must certainly be mistaken, as I never knew an instance of Martins eating *peas*; but he replied with coolness that he had many times seen them himself "blaying near the hife, and going *schnip, schnap*," by which I understood that it was his *bees* that had been the sufferers; and the charge could not be denied.

This sociable and half domesticated bird arrives in the southern frontiers of the United States late in February or early in March; reaches Pennsylvania about the first of April, and extends his migrations as far north as the country round Hudson's Bay, where he is first seen in May, and disappears in August; so, according to the doctrine of torpid-

* We add the following synonymes :—*Hirundo purpurea*, LINN. *Syst.* I., p. 344.—GMEL. *Syst.* I., p. 1020.—*Hirundo cærulea*, VIEILL. *Ois. de l'Am. Sept.* pl. 25, male; pl. 27, female.

ity, has consequently a pretty long annual nap in those frozen regions, of eight or nine months, under the ice! We, however, choose to consider him as advancing northerly with the gradual approach of spring, and retiring with his young family, on the first decline of summer, to a more congenial climate.

The summer residence of this agreeable bird is universally among the habitations of man; who, having no interest in his destruction, and deriving considerable advantage as well as amusement from his company, is generally his friend and protector. Wherever he comes, he finds some hospitable retreat fitted up for his accommodation and that of his young, either in the projecting wooden cornice—on the top of the roof, or sign post—in the box appropriated to the Blue-bird; or, if all these be wanting, in the dove-house among the pigeons. In this last case, he sometimes takes possession of one quarter or tier of the premises, in which not a pigeon dare for a moment set its foot. Some people have large conveniences formed for the Martins, with many apartments, which are usually fully tenanted, and occupied regularly every spring; and in such places, particular individuals have been noted to return to the same box for several successive years. Even the solitary Indian seems to have a particular respect for this bird. The Choctaws and Chickasaws cut off all the top branches from a sapling near their cabins, leaving the prongs a foot or two in length, on each of which they hang a gourd, or calabash, properly hollowed out for their convenience. On the banks of the Mississippi the negroes stick up long canes, with the same species of apartment fixed to their tops, in which the Martins regularly breed. Wherever I have travelled in this country I have seen with pleasure the hospitality of the inhabitants to this favorite bird.

As superseding the necessity of many of my own observations on this species, I beg leave to introduce in this place an extract of a letter from the late learned and venerable John Joseph Henry, Esq., Judge of the Supreme Court of Pennsylvania, a man of most amiable manners, which was written to me but a few months before his death, and with which I am happy to honor my performance.—“The history of the Purple Martin of America,” says he, “which is indigenous in Pennsylvania and countries very far north of our latitude, will, under your control, become extremely interesting. We know its manners, habits, and useful qualities here; but we are not generally acquainted with some traits in its character, which in my mind rank it in the class of the most remarkable birds of passage. Somewhere (I cannot now refer to book and page) in Anson’s Voyage, or in Dampier, or some other southern voyager, I recollect that the Martin is named as an inhabitant of the regions of southern America, particularly of Chili; and in consequence from the knowledge we have of its immense emigra-

tion northward in our own country, we may fairly presume that its flight extends to the south as far as Terra del Fuego. If the conjecture be well founded, we may with some certainty place this useful and delightful companion and friend of the human race as the first in the order of birds of passage. Nature has furnished it with a lengthy, strong, and nervous pinion; its legs are short too, as not to impede its passage; the head and body are flattish; in short, it has every indication from bodily formation that Providence intended it as a bird of the longest flight. Belknap speaks of it as a visitant of New Hampshire. I have seen it in great numbers at Quebec. Hearne speaks of it in lat. 60° North. To ascertain the times of the coming of the Martin to New Orleans, and its migration to and from Mexico, Quito and Chili, are desirable data in the history of this bird; but it is probable that the state of science in those countries renders this wish hopeless.

“Relative to the domestic history, if it may be so called, of the Blue-bird (of which you have given so correct and charming a description) and the Martin, permit me to give you an anecdote. In 1800 I removed from Lancaster to a farm a few miles above Harrisburg. Knowing the benefit derivable to a farmer from the neighborhood of the Martin in preventing the depredations of the Bald Eagle, the Hawks and even the Crows, my carpenter was employed to form a large box with a number of apartments for the Martin. The box was put up in the autumn. Near and around the house were a number of well grown apple trees and much shrubbery, a very fit haunt for the feathered race. About the middle of February the Blue-birds came; in a short time they were very familiar, and took possession of the box: these consisted of two or three pairs. By the fifteenth of May the Blue-birds had eggs, if not young. Now the Martins arrived in numbers, visited the box, and a severe conflict ensued. The Blue-birds, seemingly animated by their right of possession, or for the protection of their young, were victorious. The Martins regularly arrived about the middle of May for the eight following years, examined the apartments of the box in the absence of the Blue-birds, but were uniformly compelled to fly upon the return of the latter.

“The trouble caused you by reading this note you will be pleased to charge to the Martin. A box replete with that beautiful traveller, is not very distant from my bed head. Their notes seem discordant because of their numbers; yet to me they are pleasing. The industrious farmer and mechanic would do well to have a box fixed near the apartments of their drowsy laborers. Just as the dawn approaches, the Martin begins its notes, which last half a minute or more; and then subside until the twilight is fairly broken. An animated and incessant musical chattering now ensues, sufficient to arouse the most sleepy person. Perhaps chanticleer is not their superior in this beneficial qualifi-

cation; and he is far beneath the Martin in his powers of annoying birds of prey."

I shall add a few particulars to this faithful and interesting sketch by my deceased friend. About the middle or twentieth of April the Martins first begin to prepare their nest. The last of these which I examined was formed of dry leaves of the weeping willow, slender straws, hay and feathers, in considerable quantity. The eggs were four, very small for the size of the bird, and pure white without any spots. The first brood appears in May, the second late in July. During the period in which the female is laying, and before she commences incubation, they are both from home the greater part of the day. When the female is sitting she is frequently visited by the male, who also occupies her place while she takes a short recreation abroad. He also often passes a quarter of an hour in the apartment beside her, and has become quite domesticated since her confinement. He sits on the outside dressing and arranging his plumage, occasionally passing to the door of the apartment as if to inquire how she does. His notes at this time seem to have assumed a peculiar softness, and his gratulations are expressive of much tenderness. Conjugal fidelity, even where there is a number together, seems to be faithfully preserved by these birds. On the twenty-fifth of May a male and female Martin took possession of a box in Mr. Bartram's garden. A day or two after, a second female made her appearance, and stayed for several days; but from the cold reception she met with, being frequently beat off by the male, she finally abandoned the place, and set off, no doubt to seek for a more sociable companion.

The Purple Martin, like his half-cousin the King-bird, is the terror of Crows, Hawks, and Eagles. These he attacks whenever they make their appearance, and with such vigor and rapidity, that they instantly have recourse to flight. So well known is this to the lesser birds and to the domestic poultry, that as soon as they hear the Martin's voice, engaged in fight, all is alarm and consternation. To observe with what spirit and audacity this bird dives and sweeps upon and around the Hawk or the Eagle is astonishing. He also bestows an occasional bastinading on the King-bird when he finds him too near his premises; though he will at any time instantly co-operate with him in attacking the common enemy.

The Martin differs from all the rest of our swallows in the particular prey which he selects. Wasps, bees, large beetles, particularly those called by the boys *goldsmiths*, seem his favorite game. I have taken four of these large beetles from the stomach of a Purple Martin, each of which seemed entire and even unbruised.

The flight of the Purple Martin unites in it all the swiftness, ease, rapidity of turning and gracefulness of motion of its tribe. Like the

Swift of Europe, he sails much with little action of the wings. He passes through the most crowded parts of our streets, eluding the passengers with a quickness of thought; or plays among the clouds, gliding about at a vast height, like an aerial being. His usual note *peuo peuo peuo*, is loud and musical; but is frequently succeeded by others more low and guttural. Soon after the twentieth of August he leaves Pennsylvania for the south.

This bird has been described three or four different times by European writers, as so many different species. The Canadian Swallow of Turton, and the Great American Martin of Edwards, being evidently the female of the present species. The Violet Swallow of the former author, said to inhabit Louisiana, differs in no respect from the present. Deceived by the appearance of the flight of this bird, and its similarity to that of the Swift of Europe, strangers from that country have also asserted that the Swift is common to North America and the United States. No such bird, however, inhabits any part of this continent that I have as yet visited.

The Purple Martin is eight inches in length, and sixteen inches in extent; except the lores, which are black, and wings and tail, which are of a brownish black, he is of a rich and deep purplish blue, with strong violet reflections; the bill is strong, the gap very large; the legs also short, stout, and of a dark dirty purple; the tail consists of twelve feathers, is considerably forked and edged with purple blue, the eye full and dark.

The female (fig. 2) measures nearly as large as the male; the upper parts are blackish brown, with blue and violet reflections thinly scattered; chin and breast grayish brown; sides under the wings darker; belly and vent whitish, not pure, with stains of dusky and yellow ochre; wings and tail blackish brown

SPECIES II. *HIRUNDO AMERICANA*.

BARN SWALLOW.

[Plate XXXVIII. Fig. 1, Male. Fig. 2, Female.]

THERE are but few persons in the United States unacquainted with this gay, innocent, and active little bird. Indeed the whole tribe are so distinguished from the rest of small birds by their sweeping rapidity of flight, their peculiar aerial evolutions of wing over our fields and rivers, and through our very streets, from morning to night, that the light of heaven itself, the sky, the trees, or any other common objects of nature, are not better known than the Swallows. We welcome their first appearance with delight, as the faithful harbingers and companions of flowery spring, and ruddy summer; and when, after a long, frost-bound and boisterous winter, we hear it announced, that "*The Swallows are come,*" what a train of charming ideas are associated with the simple tidings!

The wonderful activity displayed by these birds forms a striking contrast to the slow habits of most other animals. It may be fairly questioned whether among the whole feathered tribes which Heaven has formed to adorn this part of creation, there be any that, in the same space of time, pass over an equal extent of surface with the Swallow. Let a person take his stand on a fine summer evening by a new mown field, meadow or river shore for a short time, and among the numerous individuals of this tribe that flit before him, fix his eye on a particular one, and follow, for a while, all its circuitous labyrinths—its extensive sweeps—its sudden, rapidly reiterated zigzag excursions, little inferior to the lightning itself, and then attempt by the powers of mathematics to calculate the length of the various lines it describes. Alas! even his omnipotent fluxions would avail him little here, and he would soon abandon the task in despair. Yet, that some definite conception may be formed of this extent, let us suppose, that this little bird flies, in his usual way, at the rate of one mile in a minute, which, from the many experiments I have made, I believe to be within the truth; and that he is so engaged for ten hours every day; and further, that this active life is extended to ten years (many of our small birds being known to live much longer even in a state of domestication), the amount of all

these, allowing three hundred and sixty-five days to a year, would give us two millions one hundred and ninety thousand miles; upwards of eighty-seven times the circumference of the globe! Yet this little *winged seraph*, if I may so speak, who, in a few days, and at will, can pass from the borders of the arctic regions to the torrid zone, is forced, when winter approaches, to descend to the bottoms of lakes, rivers, and mill ponds to bury itself in the mud with eels and snapping turtles; or to creep ingloriously into a cavern, a rat hole, or a hollow tree, there to doze with snakes, toads, and other reptiles until the return of spring! Is not this true, ye wise men of Europe and America, who have published so many *credible* narratives on this subject?

The Geese, the Ducks, the Cat-bird, and even the Wren, which creeps about our outhouses in summer like a mouse, are all acknowledged to be migratory, and to pass to southern regions at the approach of winter;—the Swallow alone, on whom Heaven has conferred superior powers of wing, must sink in torpidity at the bottom of our rivers, or doze all winter in the caverns of the earth. I am myself something of a traveller, and foreign countries afford many novel sights: should I assert, that in some of my peregrinations I had met with a nation of Indians, all of whom, old and young, at the commencement of cold weather, descend to the bottom of their lakes and rivers, and there remain until the breaking up of frost; nay, should I affirm, that thousands of people in the neighborhood of this city, regularly undergo the same semi-annual submersion—that I myself had fished up a whole family of these from the bottom of the Schuylkill, where they had lain *torpid* all winter, carried them home, and brought them all comfortably to themselves again. Should I even publish this in the learned pages of the Transactions of our Philosophical Society, who would believe me? Is then the organization of a Swallow less delicate than that of a man? Can a bird, whose vital functions are destroyed by a short privation of pure air and its usual food, sustain, for six months, a situation where the most robust man would perish in a few hours or minutes? Away with such absurdities!—They are unworthy of a serious refutation. I should be pleased to meet with a man who has been personally more conversant with birds than myself, who has followed them in their wide and devious routes—studied their various manners—mingled with and marked their peculiarities more than I have done; yet the miracle of a resuscitated Swallow, in the depth of winter, from the bottom of a mill-pond, is, I confess, a phenomenon in ornithology that I have never met with.

What better evidence have we that these fleet-winged tribes, instead of following the natural and acknowledged migrations of many other birds, lie torpid all winter in hollow trees, caves and other subterraneous recesses? That the Chimney Swallow, in the early part of summer,

may have been found in a hollow tree, and in great numbers too, is not denied; such being in some places of the country (as will be shown in the history of that species), their actual places of rendezvous, on their first arrival, and their common roosting place long after; or that the Bank Swallows, also, soon after their arrival, in the early part of spring, may be chilled by the cold mornings which we frequently experience at that season, and be found in this state in their holes, I would as little dispute; but that either the one or the other has ever been found, *in the midst of winter*, in a state of *torpidity*, I do not, cannot believe. Millions of trees of all dimensions are cut down every fall and winter of this country, where, in their proper season, Swallows swarm around us. Is it therefore in the least probable that we should, only once or twice in an age, have no other evidence than one or two solitary and very suspicious reports of a Mr. Somebody having made a discovery of this kind? If caves were their places of winter retreat, perhaps no country on earth could supply them with a greater choice. I have myself explored many of these in various parts of the United States both in winter and in spring, particularly in that singular tract of country in Kentucky, called the *Barrens*, where some of these subterraneous caverns are several miles in length, lofty and capacious, and pass under a large and deep river—have conversed with the saltpetre workers by whom they are tenanted; but never heard or met with one instance of a Swallow having been found there in winter. These people treated such reports with ridicule.

It is to be regretted that a greater number of experiments have not been made, by keeping live Swallows through the winter, to convince these believers in the torpidity of birds, of their mistake. That class of cold-blooded animals which are *known* to become torpid during winter, and of which hundreds and thousands are found every season, are subject to the same when kept in a suitable room for experiment. How is it with the Swallows in this respect? Much powerful testimony might be produced on this point; the following experiments recently made by Mr. James Pearson of London, and communicated by Sir John Trevellyn, Bart., to Mr. Bewick, the celebrated engraver in wood, will be sufficient for our present purpose, and throw great light on this part of the subject.*

“Five or six of these birds were taken about the latter end of August, 1784, in a bat fowling net at night; they were put separately into small cages, and fed with Nightingale’s food: in about a week or ten days they took food of themselves; they were then put all together into a deep cage, four feet long, with gravel at the bottom; a broad shallow pan with water was placed in it, in which they sometimes washed them-

* See Bewick’s *British Birds*, vol. i., p. 254.

selves, and seemed much strengthened by it. One day Mr. Pearson observed that they went into the water with unusual eagerness, hurrying in and out again repeatedly with such swiftness as if they had been suddenly seized with a frenzy. Being anxious to see the result, he left them to themselves about half an hour, and going to the cage again found them all huddled together in a corner apparently dead; the cage was then placed at a proper distance from the fire, when only two of them recovered and were as healthy as before—the rest died. The two remaining ones were allowed to wash themselves occasionally for a short time only; but their feet soon after became swelled and inflamed, which Mr. P. attributed to their perching, and they died about Christmas. Thus the first year's experiment was in some measure lost. Not discouraged by the failure of this, Mr. P. determined to make a second trial the succeeding year, from a strong desire of being convinced of the truth of their going into a state of torpidity. Accordingly the next season having taken some more birds he put them into the cage, and in every respect pursued the same methods as with the last; but to guard their feet from the bad effects of the damp and cold he covered the perches with flannel, and had the pleasure to observe that the birds thrived extremely well; they sung their song during the winter, and soon after Christmas began to moult, which they got through without any difficulty, and lived three or four years, regularly moulting every year at the usual time. On the renewal of their feathers it appeared that their tails were forked exactly the same as in those birds which return hither in the spring, and in every respect their appearance was the same. These birds, says Mr. Pearson, were exhibited to the Society for Promoting Natural History, on the fourteenth day of February, 1786, at the time they were in a deep moult, during a severe frost, when the snow was on the ground. Minutes of this circumstance were entered in the books of the society. These birds died at last from neglect, during a long illness which Mr. Pearson had: they died in the summer. Mr. P. concludes his very interesting account in these words: January 20th, 1797, I have now in my house, No. 21, Great Newport street, Long Acre, four Swallows in moult, in as perfect health as any birds ever appeared to be when moulting."

The Barn Swallow of the United States has hitherto been considered by many writers as the same with the common Chimney Swallow of Europe. They differ, however, considerably, in color, as well as in habits; the European species having the belly and vent white, the American species those parts of a bright chestnut; the former building in the corners of chimneys, near the top, the latter never in such places; but usually in barns, sheds, and other outhouses, on beams, braces, rafters, &c. It is difficult to reconcile these constant differences of manners and markings in one and the same bird; I shall therefore take

the liberty of considering the present as a separate and distinct species.

The Barn Swallow arrives in this part of Pennsylvania from the south on the last week in March, or the first week in April, and passes on to the north as far, at least, as the river St. Lawrence. On the east side of the great range of the Alleghany, they are dispersed very generally over the country, wherever there are habitations, even to the summit of high mountains; but, on account of the greater coldness of such situations, are usually a week or two later in making their appearance there. On the 16th of May, being on a shooting expedition on the top of Pocono Mountain, Northampton, when the ice on that and on several successive mornings was more than a quarter of an inch thick, I observed with surprise a pair of these Swallows which had taken up their abode on a miserable cabin there. It was then about sunrise, the ground white with hoar frost, and the male was twittering on the roof by the side of his mate with great sprightliness. The man of the house told me that a single pair came regularly there every season, and built their nest on a projecting beam under the eaves, about six or seven feet from the ground. At the bottom of the mountain, in a large barn belonging to the tavern there, I counted upwards of twenty nests, all seemingly occupied. In the woods they are never met with; but as you approach a farm they soon catch the eye, cutting their gambols in the air. Scarcely a barn, to which these birds can find access, is without them; and as public feeling is universally in their favor, they are seldom or never disturbed. The proprietor of the barn last mentioned, a German, assured me, that if a man permitted the Swallows to be shot his cows would give bloody milk, and also that no barn where Swallows frequented would ever be struck with lightning; and I nodded assent. When the tenets of superstition "lean to the side of humanity" one can readily respect them. On the west side of the Alleghany these birds become more rare. In travelling through the states of Kentucky and Tennessee, from Lexington to the Tennessee river, in the months of April and May, I did not see a single individual of this species; though the Purple Martin, and, in some places, the Bank Swallow was numerous.

Early in May they begin to build. From the size and structure of the nest it is nearly a week before it is completely finished. One of these nests, taken on the 21st of June from the rafter to which it was closely attached, is now lying before me. It is in the form of an inverted cone with a perpendicular section cut off on that side by which it adhered to the wood. At the top it has an extension of the edge, or offset, for the male or female to sit on occasionally, as appeared by the dung; the upper diameter was about six inches by five, the height externally seven inches. This shell is formed of mud, mixed with fine hay, as plasterers do their mortar with

hair, to make it adhere the better; the mud seems to have been placed in regular strata, or layers, from side to side; the hollow of this cone (the shell of which is about an inch in thickness) is filled with fine hay, well stuffed in; above that is laid a handful of very large downy geese feathers; the eggs are five, white, speckled and spotted all over with reddish brown. Owing to the semi-transparency of the shell the eggs have a slight tinge of flesh color. The whole weighs about two pounds.

They have generally two broods in the season. The first make their appearance about the second week in June; and the last brood leave the nest about the 10th of August. Though it is not uncommon for twenty, and even thirty pair, to build in the same barn, yet everything seems to be conducted with great order and affection; all seems harmony among them, as if the interest of each were that of all. Several nests are often within a few inches of each other; yet no appearance of discord or quarrelling takes place in this peaceful and affectionate community.

When the young are fit to leave the nest, the old ones entice them out by fluttering backwards and forwards, twittering and calling to them every time they pass; and the young exercise themselves, for several days, in short essays of this kind, *within doors*, before they first venture abroad. As soon as they leave the barn they are conducted by their parents to the trees, or bushes, by the pond, creek, or river shore, or other suitable situation, where their proper food is most abundant, and where they can be fed with the greatest convenience to both parties. Now and then they take a short excursion themselves, and are also frequently fed while on wing by an almost instantaneous motion of both parties, rising perpendicularly in air and meeting each other. About the middle of August they seem to begin to prepare for their departure. They assemble on the roof in great numbers, dressing and arranging their plumage, and making occasional essays, twittering with great cheerfulness. Their song is a kind of sprightly warble, sometimes continued for a considerable time. From this period to the eighth of September they are seen near the Schuylkill and Delaware, every afternoon, for two or three hours before sunset, passing along to the south in great numbers, feeding as they skim along. I have counted several hundreds pass within sight in less than a quarter of an hour, all directing their course towards the south. The reeds are now their regular roosting places; and about the middle of September there is scarcely an individual of them to be seen. How far south they continue their route is uncertain; none of them remain in the United States. Mr. Bartram informs me, that during his residence in Florida, he often saw vast flocks of this and our other Swallows, passing from the peninsula towards the south in September and October; and also on their return to the north about the middle of March. It is highly probable, that

were the countries to the south of the Gulf of Mexico, and as far south as the great river Marañon, visited and explored by a competent naturalist, these regions would be found to be the winter rendezvous of the very birds now before us, and most of our other migratory tribes.

In a small volume which I have lately met with, entitled "An Account of the British settlement of Honduras," by Captain George Henderson, of the 5th West India regiment, published in London in 1809, the writer, in treating of that part of its natural history which relates to birds, gives the following particulars. "Myriads of Swallows," says he, "are also the occasional inhabitants of Honduras. The time of their residence is generally confined to the period of the rains [that is from October to February], after which they totally disappear. There is something remarkably curious and deserving of notice in the ascent of these birds. As soon as the dawn appears they quit their place of rest, which is usually chosen amid the rushes of some watery savanna; and invariably rise to a certain height, in a compact spiral form, and which at a distance often occasions them to be taken for an immense column of smoke. This attained, they are then seen separately to disperse in search of food, the occupation of their day. To those who may have had the opportunity of observing the phenomenon of a water spout, the similarity of evolution, in the ascent of these birds, will be thought surprisingly striking. The descent, which regularly takes place at sunset, is conducted much in the same way; but with inconceivable rapidity: and the noise which accompanies this can only be compared to the falling of an immense torrent; or the rushing of a violent gust of wind. Indeed, to an observer it seems wonderful, that thousands of these birds are not destroyed, in being thus propelled to the earth with such irresistible force."*

How devoutly it is to be wished that the natural history of those regions were more precisely known! So absolutely necessary as it is to the perfect understanding of this department of our own!

The Barn Swallow is seven inches long, and thirteen inches in extent; bill black; upper part of the head, neck, back, rump and tail coverts, steel blue, which descends rounding on the breast; front and chin deep chestnut; belly, vent, and lining of the wing, light chestnut; wings and tail brown black, slightly glossed with reflections of green; tail greatly forked, the exterior feather on each side an inch and a half longer than the next, and tapering towards the extremity, each feather, except the two middle ones, marked on its inner vane with an oblong spot of white; lores black; eye dark hazel; sides of the mouth yellow; legs dark purple.

The female differs from the male in having the belly and vent rufous

* Henderson's Honduras, p. 119.

white, instead of light chestnut; these parts are also slightly clouded with rufous; and the exterior tail feathers are shorter.

These birds are easily tamed, and soon become exceedingly gentle and familiar. I have frequently kept them in my room for several days at a time, where they employed themselves in catching flies, picking them from my clothes, hair, &c., calling out occasionally as they observed some of their old companions passing the windows.

SPECIES III. *HIRUNDO VIRIDIS*.*

WHITE-BELLIED SWALLOW.

[Plate XXXVIII. Fig. 3.]

THIS is the species hitherto supposed by Europeans to be the same with their common Martin, *Hirundo urbica*, a bird nowhere to be found within the United States. The English Martin is blue black above; the present species greenish blue; the former has the whole rump white, and the legs and feet are covered with short white downy feathers; the latter has nothing of either. That ridiculous propensity in foreign writers, to consider most of our birds as *varieties* of their own, has led them into many mistakes, which it shall be the business of the author of the present work to point out, decisively, wherever he may meet with them.

The White-bellied Swallow arrives in Pennsylvania a few days later than the preceding species. It often takes possession of an apartment in the boxes appropriated to the Purple Martin; and also frequently builds and hatches in a hollow tree. The nest consists of fine loose dry grass, lined with large downy feathers, rising above its surface, and so placed as to curl inwards and completely conceal the eggs. These last are usually four or five in number, and pure white. They also have two broods in the season.

The voice of this species is low and guttural: they are more disposed to quarrel than the Barn Swallows, frequently fighting in the air for a quarter of an hour at a time, particularly in spring, all the while keeping up a low rapid chatter. They also sail more in flying; but during the breeding season frequent the same situations in quest of similar food. They inhabit the northern Atlantic states as far as the district of Maine, where I have myself seen them; and my friend Mr. Gardiner informs me, that they are found on the coast of Long Island and its

* *Hirundo bicolor*, VIEILL. *Ois. de l'Am. Sept.* pl. 31.

neighborhood. About the middle of July I observed many hundreds of these birds sitting on the flat sandy beach near the entrance of Great Egg Harbor. They were also very numerous among the myrtles of these low islands, completely covering some of the bushes. One man told me, that he saw one hundred and two shot at a single discharge. For some time before their departure they subsist principally on the myrtle berries (*Myrica cerifera*) and become extremely fat. They leave us early in September.

This species appears to have remained hitherto undescribed, owing to the misapprehension before mentioned. It is not perhaps quite so numerous as the preceding, and rarely associates with it to breed, never using mud of any kind in the construction of its nest.

The White-bellied Swallow is five inches and three quarters long, and twelve inches in extent; bill and eye black; upper parts a light glossy greenish blue; wings brown black, with slight reflections of green; tail forked, the two exterior feathers being about a quarter of an inch longer than the middle ones, and all of a uniform brown black; lores black; whole lower parts pure white; wings when shut extend about a quarter of an inch beyond the tail; legs naked, short and strong, and, as well as the feet, of a dark purplish flesh color; claws stout.

The female has much less of the greenish gloss than the male, the colors being less brilliant; otherwise alike.

SPECIES IV. *HIRUNDO RIPARIA*.*

BANK SWALLOW, OR SAND MARTIN.

[Plate XXXVIII. Fig. 4.]

LATH. *Syn.* IV., 568-10.—*Arct. Zool.* II., No. 332.—*L'Hirondelle de rivage*, BUFF. VI., 632. *Pl. Enl.* 543, f. 2.—*TURT. Syst.* 629.

THIS appears to be the most sociable with its kind and the least intimate with man, of all our Swallows; living together in large communities of sometimes three or four hundred. On the high sandy bank of a river, quarry, or gravel pit, at a foot or two from the surface, they commonly scratch out holes for their nests, running them in a horizontal direction to the depth of two and sometimes three feet. Several of these holes are often within a few inches of each other, and extend in various strata along the front of the precipice, sometimes for eighty or one hundred yards. At the extremity of this hole a little fine dry grass

* LINN. *Syst.* I., p. 344.—GMEL. *Syst.* I., p. 1019.—LATH. *Ind. Orn.* II., p. 575.

with a few large downy feathers form the bed on which their eggs, generally five in number, and pure white, are deposited. The young are hatched late in May; and here I have taken notice of the common Crow, in parties of four or five, watching at the entrance of these holes, to seize the first straggling young that should make its appearance. From the clouds of Swallows that usually play around these breeding places, they remind one at a distance of a swarm of bees.

The Bank Swallow arrives here earlier than either of the preceding; begins to build in April, and has commonly two broods in the season. Their voice is a low mutter. They are particularly fond of the shores of rivers, and, in several places along the Ohio, they congregate in immense multitudes. We have sometimes several days of cold rain and severe weather after their arrival in spring, from which they take refuge in their holes, clustering together for warmth, and have been frequently found at such times in almost a lifeless state with the cold; which circumstance has contributed to the belief that they lie torpid all winter in these recesses. I have searched hundreds of these holes in the months of December and January, but never found a single Swallow, dead, living, or torpid. I met with this bird in considerable numbers on the shores of the Kentucky river, between Lexington and Danville. They likewise visit the sea shore, in great numbers, previous to their departure, which continues from the last of September to the middle of October.

The Bank Swallow is five inches long, and ten inches in extent; upper parts mouse colored, lower white, with a band of dusky brownish across the upper part of the breast; tail forked, the exterior feather slightly edged with whitish; lores and bill black; legs with a few tufts of downy feathers behind; claws fine pointed and very sharp; over the eye a streak of whitish; lower side of the shafts white; wings and tail darker than the body. The female differs very little from the male.

This bird appears to be in nothing different from the European species; from which circumstance, and its early arrival here, I would conjecture that it passes to a high northern latitude on both continents.

SPECIES V. *HIRUNDO PELASGIA*.*

CHIMNEY SWALLOW.

[Plate XXXIX. Fig. 1.]

LATH. *Syn.* v., p. 583-32.—CATESB. *Car. App.* t. 8.—*Hirondelle de la Caroline*, BUFF. VI., p. 700.—*Hirundo Carolinensis*, BRISS. II., p. 501, 9.—*Aculeated Swallow*, ARCT. Zool. II., No. 335-18.—TURT. *Syst.* p. 630.

THIS species is peculiarly our own; and strongly distinguished from all the rest of our Swallows by its figure, flight, and manners. Of the first of these the representation in the plate will give a correct idea; its other peculiarities shall be detailed as fully as the nature of the subject requires.

This Swallow, like all the rest of its tribe in the United States, is migratory, arriving in Pennsylvania late in April or early in May, and dispersing themselves over the whole country wherever there are vacant chimneys in summer sufficiently high and convenient for their accommodation. In no other situation with us are they observed at present to build. This circumstance naturally suggests the query, Where did these birds construct their nests before the arrival of Europeans in this country, when there were no such places for their accommodation? I would answer probably in the same situations in which they still continue to build in the remote regions of our western forests, where European improvements of this kind are scarcely to be found, namely, in the hollow of a tree, which in some cases has the nearest resemblance to their present choice of any other. One of the first settlers in the state of Kentucky informed me, that he cut down a large hollow beech tree which contained forty or fifty nests of the Chimney Swallow, most of which by the fall of the tree, or by the weather, were lying at the bottom of the hollow, but sufficient fragments remained adhering to the sides of the tree to enable him to number them. They appeared, he said, to be of many years' standing. The present site which they have chosen must however hold out many more advantages than the former, since we see that in the whole thickly settled parts of the United States these birds have uniformly adopted this new convenience; not a single pair being observed to prefer the woods. Security from birds of prey and other animals—from storms that frequently overthrow the timber,

* LINN. *Syst.* I., p. 345.—GMEL. *Syst.* I., p. 1023.—LATH. *Ind. Orn.* II., p. 581.

and the numerous ready conveniences which these new situations afford, are doubtless some of the advantages. The choice they have made certainly bespeaks something more than mere unreasoning instinct, and does honor to their discernment.

The nest of this bird is of singular construction, being formed of very small twigs, fastened together with a strong adhesive glue or gum, which is secreted by two glands, one on each side of the hind head, and mixes with the saliva. With this glue, which becomes hard as the twigs themselves, the whole nest is thickly besmeared. The nest itself is small and shallow, and attached by one side or edge to the wall, and is totally destitute of the soft lining with which the others are so plentifully supplied. The eggs are generally four, and white. They generally have two broods in the season. The young are fed at intervals during the greater part of the night, a fact which I have had frequent opportunities of remarking both here and in the Mississippi territory. The noise which the old ones make in passing up and down the funnel has some resemblance to distant thunder. When heavy and long-continued rains occur, the nest, losing its hold, is precipitated to the bottom. This disaster frequently happens. The eggs are destroyed; but the young, though blind (which they are for a considerable time), sometimes scramble up along the vent, to which they cling like squirrels, the muscularity of their feet and the sharpness of their claws at this tender age being remarkable. In this situation they continue to be fed for perhaps a week or more. Nay, it is not uncommon for them voluntarily to leave the nest long before they are able to fly, and to fix themselves on the wall, where they are fed until able to hunt for themselves.

When these birds first arrive in spring, and for a considerable time after, they associate together every evening in one general rendezvous; those of a whole district roosting together. This place of repose, in the more unsettled parts of the country, is usually a large hollow tree open at top, trees of that kind, or *Swallow trees*, as they are usually called, having been noticed in various parts of the country and generally believed to be the winter quarters of these birds, where, heaps upon heaps, they dozed away the winter in a state of torpidity. Here they have been seen on their resurrection in spring, and here they have again been remarked descending to their death-like sleep in autumn.

Among various accounts of these trees that might be quoted, the following are selected as bearing the marks of authenticity. "At Middlebury, in this state," says Mr. Williams, *Hist. of Vermont*, p. 16, "there was a large hollow elm, called by the people in the vicinity, the Swallow tree. From a man who for several years lived within twenty rods of it, I procured this information. He always thought the Swallows tarried in the tree through the winter, and avoided cutting it down on that

account. About the first of May the Swallows came out of it in large numbers, about the middle of the day, and soon returned. As the weather grew warmer they came out in the morning with a loud noise, or roar, and were soon dispersed. About half an hour before sundown they returned in millions, circulating two or three times round the tree, and then descending like a stream into a hole about sixty feet from the ground. It was customary for persons in the vicinity to visit this tree to observe the motions of these birds: and when any persons disturbed their operations by striking violently against the tree with their axes, the Swallows would rush out in millions and with a great noise. In November, 1791, the top of this tree was blown down twenty feet below where the Swallows entered. There has been no appearance of the Swallows since. Upon cutting down the remainder an immense quantity of excrements, quills and feathers, were found, but no appearance or relics of any nests.

“Another of these Swallow trees was at Bridport. The man who lived the nearest to it gave this account. The Swallows were first observed to come out of the tree in the spring about the time that the leaves first began to appear on the trees; from that season they came out in the morning about half an hour after sunrise. They rushed out like a stream, as big as the hole in the tree would admit, and ascended in a perpendicular line until they were above the height of the adjacent trees; then assumed a circular motion, performing their evolutions two or three times, but always in a larger circle, and then dispersed in every direction. A little before sundown they returned in immense numbers, forming several circular motions, and then descended like a stream into the hole, from whence they came out in the morning. About the middle of September they were seen entering the tree for the last time. These birds were all of the species called the House or Chimney Swallow. The tree was a large hollow elm; the hole at which they entered was about forty feet above the ground, and about nine inches in diameter. The Swallows made their first appearance in the spring and their last appearance in the fall in the vicinity of this tree; and the neighboring inhabitants had no doubt but that the Swallows continued in it during the winter. A few years ago a hole was cut at the bottom of the tree; from that time the Swallows have been gradually forsaking the tree and have now almost deserted it.”

Though Mr. Williams himself, as he informs us, is led to believe from these and some other particulars which he details, “that the House Swallow in this part of America generally resides during the winter in the hollow of trees; and the Ground Swallows [Bank Swallows] find security in the mud at the bottom of lakes, rivers, and ponds,” yet I cannot in the cases just cited see any sufficient cause for such a belief. The birds were seen to pass out on the first of May or in the spring

when the leaves began to appear on the trees, and about the middle of September they were seen entering the tree for the last time; but there is no information here of their being seen at any time during winter either within or around the tree. This most important part of the matter is taken for granted without the least examination, and, as will be presently shown, without foundation. I shall, I think, also prove that if these trees had been cut down in the depth of winter not a single Swallow would have been found either in a living or a torpid state! And that this was merely a place of rendezvous for *active living birds* is evident from the "immense quantity of excrements" found within it, which birds in a state of *torpidity* are not supposed to produce. The total absence of the relics of nests is a proof that it was not a breeding place, and that the whole was nothing more than one of those places to which this singular bird resorts, immediately on its arrival in May, in which also many of the males continue to roost during the whole summer, and from which they regularly depart about the middle of September. From other circumstances it appears probable that some of these trees have been for ages the summer rendezvous or general roosting place of the whole Chimney Swallows of an extensive district. Of this sort I conceive the following to be one which is thus described by a late traveller to the westward.

Speaking of the curiosities of the state of Ohio the writer observes, "In connection with this I may mention a large collection of feathers found within a hollow tree which I examined with the Rev. Mr. Story, May 18, 1803. It is in the upper part of Waterford, about two miles distant from the Muskingum. A very large sycamore, which through age had decayed and fallen down, contained in its hollow trunk, five and a half feet in diameter, and for nearly fifteen feet upwards, a mass of decayed feathers with a small admixture of brownish dust and the exuvie of various insects. The feathers were so rotten that it was impossible to determine to what kind of birds they belonged. They were less than those of the pigeon; and the largest of them were like the pinion and tail feathers of the Swallow. I examined carefully this astonishing collection in the hope of finding the bones and bills, but could not distinguish any. The tree with some remains of its ancient companions lying around was of a growth preceding that of the neighboring forest. Near it and even out of its mouldering ruins grow thrifty trees of a size which indicate two or three hundred years of age."*

Such are the usual roosting places of the Chimney Swallow in the more thinly settled parts of the country. In towns, however, they are differently situated, and it is matter of curiosity to observe that they frequently select the court-house chimney for their general place of

* Harris's Journal, p. 180.

rendezvous, as being usually more central, and less liable to interruption during the night. I might enumerate many places where this is their practice. Being in the town of Reading, Pennsylvania, in the month of August, I took notice of sixty or eighty of these birds, a little before evening, amusing themselves by ascending and descending the chimney of the court-house there. I was told that in the early part of summer they were far more numerous at that particular spot. On the twentieth of May in returning from an excursion to the Great Pine Swamp, I spent part of the day in the town of Easton, where I was informed by my respected friend Mordecai Churchman, cashier of the bank there, and one of the people called Quakers, that the Chimney Swallows of Easton had selected the like situation; and that from the windows of his house, which stands nearly opposite to the court-house, I might in an hour or two witness their whole manœuvres.

I accepted the invitation with pleasure. Accordingly a short time after sunset the Chimney Swallows, which were generally dispersed about town, began to collect around the court-house, their numbers every moment increasing, till, like notes in the sunbeams, the air seemed full of them. These while they mingled amongst each other seemingly in every direction, uttering their peculiar note with great sprightliness, kept a regular circuitous sweep around the top of the court-house, and about fourteen or fifteen feet above it, revolving with great rapidity for the space of at least ten minutes. There could not be less than four or five hundred of them. They now gradually varied their line of motion until one part of its circumference passed immediately over the chimney and about five or six feet above it. Some as they passed made a slight feint of entering, which was repeated by those immediately after, and by the whole circling multitude in succession; in this feint they approached nearer and nearer at every revolution, dropping perpendicularly, but still passing over; the circle meantime becoming more and more contracted, and the rapidity of its revolution greater as the dusk of evening increased, until at length one, and then another, dropped in, another and another followed, the circle still revolving until the whole multitude had descended except one or two. These flew off as if to collect the stragglers, and in a few seconds returned with six or eight more, which, after one or two rounds, dropped in one by one, and all was silence for the night. It seemed to me hardly possible that the internal surface of the vent could accommodate them all, without clustering on one another, which I am informed they never do; and I was very desirous of observing their ascension in the morning, but having to set off before day, I had not that gratification. Mr. Churchman, however, to whom I have since transmitted a few queries, has been so obliging as to inform me, that towards the beginning of June the number of those that regularly retired to the court-house to roost, was not more than

one-fourth of the former; that on the morning of the twenty-third of June he particularly observed their reascension, which took place at a quarter past four, or twenty minutes before sunrise, and that they passed out in less than three minutes. That at my request the chimney had been examined from above; but that as far down at least as nine feet, it contained no nests; though at a former period it is certain that their nests were very numerous there, so that the chimney was almost choked, and a sweep could with difficulty get up it. But then it was observed that their place of nocturnal retirement was in another quarter of the town. "On the whole," continues Mr. Churchman, "I am of opinion, that those who continue to roost at the court-house are male birds, or such as are not engaged in the business of incubation, as that operation is going on in almost every unoccupied chimney in town. It is reasonable to suppose if they made use of that at the court-house for this purpose, at least some of their nests would appear towards the top, as we find such is the case where but few nests are in a place."

In a subsequent letter Mr. Churchman writes as follows:—"After the young brood produced in the different chimneys in Easton had taken wing, and a week or ten days previous to their total disappearance, they entirely forsook the court-house chimney, and rendezvoused in accumulated numbers in the southernmost chimney of John Ross's mansion, situated perhaps one hundred feet northeastward of the court-house. In this last retreat I several times counted more than two hundred go in of an evening, when I could not perceive a single bird enter the court-house chimney. I was much diverted one evening on seeing a cat, which came upon the roof of the house, and placed herself near the chimney, where she strove to arrest the birds as they entered, without success; she at length ascended to the chimney top and took her station, and the birds descended in gyrations without seeming to regard grimalkin, who made frequent attempts to grab them. I was pleased to see that they all escaped her fangs. About the first week in the ninth month [September] the birds quite disappeared; since which I have not observed a single individual. Though I was not so fortunate as to be present at their general assembly and council when they concluded to take their departure, nor did I see them commence their flight; yet I am fully persuaded that none of them remain in any of our chimneys here. I have had access to Ross's chimney where they last resorted, and could see the lights out from bottom to top, without the least vestige or appearance of any birds. Mary Ross also informed me, that they have had their chimneys swept previous to their making fires, and though late in autumn no birds have been found there. Chimneys also which have not been used have been ascended by sweeps in the winter without discovering any. Indeed all of them are swept every fall and winter, and I have never heard of the Swallows being

found in either a dead, living or torpid state. As to the court-house it has been occupied as a place of worship two or three times a week for several weeks past, and at those times there has been fire in the stoves, the pipes of them both going into the chimney, which is shut up at bottom by brick work: and as the birds had forsaken that place, it remains pretty certain that they did not return there; and if they did the smoke I think would be deleterious to their existence; especially as I never knew them to resort to kitchen chimneys where fire was kept in the summer. I think I have noticed them enter such chimneys for the purpose of exploring; but I have also noticed that they immediately ascended, and went off, on finding fire and smoke."

The Chimney Swallow is easily distinguished in air from the rest of its tribe here, by its long wings, its short body, the quick and slight vibrations of its wings, and its wide, unexpected diving rapidity of flight; shooting swiftly in various directions without any apparent motion of the wings, and uttering the sounds *tsip tsip tsip tsee tsee* in a hurried manner. In roosting, the thorny extremities of its tail are thrown in for its support. It is never seen to alight but in hollow trees or chimneys; is always most gay and active in wet and gloomy weather, and is the earliest abroad in morning, and latest out in evening of all our Swallows. About the first or second week in September, they move off to the south, being often observed on their route accompanied by the Purple Martins.

When we compare the manners of these birds while here with the account given by Capt. Henderson of those that winter in such multitudes at Honduras, it is impossible not to be struck with the resemblance; or to suppress our strong suspicions that they may probably be the very same.

This species is four inches and a half in length, and twelve inches in extent! altogether of a deep sooty brown, except the chin and line over the eye, which are of a dull white; the lores, as in all the rest, are black; bill extremely short, hard and black, nostrils placed in a slightly elevated membrane; legs covered with a loose purplish skin; thighs naked and of the same tint; feet extremely muscular; the three fore toes nearly of a length; claws very sharp; the wing when closed extends an inch and a half beyond the tip of the tail, which is rounded, and consists of *ten* feathers scarcely longer than their coverts; their shafts extend beyond the vanes, are sharp pointed, strong, and very elastic, and of a deep black color; the shafts of the wing quills are also remarkably strong; eye black, surrounded by a bare blackish skin or orbit.

The female can scarcely be distinguished from the male by her plumage.

GENUS XLVII. CAPRIMULGUS. GOATSUCKER.

SPECIES I. *C. CAROLINENSIS*.*

CHUCK-WILL'S-WIDOW.

[Plate LIV. Fig. 2.]

THIS solitary bird is rarely found to the north of James river in Virginia on the sea-board, or of Nashville in the state of Tennessee in the interior; and no instance has come to my knowledge in which it has been seen either in New Jersey, Pennsylvania or Maryland. On my journey south I first met with it between Richmond and Petersburg in Virginia, and also on the banks of the Cumberland in Tennessee.

Mr. Pennant has described this bird under the appellation of the *Short-winged Goatsucker* (Arct. Zool. No. 336), from a specimen which he received from Dr. Garden of Charleston, South Carolina; but in speaking of its manners he confounds it with the *Whip-poor-will*, though the latter is little more than half the cubic bulk of the former, and its notes altogether different. "In South Carolina," says this writer, speaking of the present species, "it is called, from one of its notes, *Chuck, chuck-will's-widow*; and in the northern provinces *Whip-poor-will*, from the resemblance which another of its notes bears to those words."† He then proceeds to detail the manners of the common *Whip-poor-will*, by extracts from Dr. Garden and Mr. Kalm, which clearly prove that all of them were personally unacquainted with that bird; and had never seen or examined any other than two of our species, the *Short-winged* or *Chuck-will's-widow*, and the *Long-winged*, or *Night Hawk*, to both of which they indiscriminately attribute the notes and habits of the *Whip-poor-will*.

The *Chuck-will's-widow*, so called from its notes which seem exactly to articulate those words, arrivés on the sea coast of Georgia about the middle of March, and in Virginia early in April. It commences its singular call generally in the evening, soon after sunset, and continues it with short occasional interruptions for several hours. Towards morn-

* GMEL. *Syst.* I., p. 1023.—LATH. *Ind. Orn.* II., p. 584.—*Caprimulgus rufus*, VIEILL. *Ois. de l'Am. Sept.* Pl. 25, female.

† Arct. Zool. p. 434.

ing these repetitions are renewed, and continue until dawn has fairly appeared. During the day it is altogether silent. This note, or call, instantly attracts the attention of a stranger, and is strikingly different from that of the Whip-poor-will. In sound and articulation it seems plainly to express the words which have been applied to it (*Chuck-will's-widow*), pronouncing each syllable leisurely and distinctly, putting the principal emphasis on the last word. In a still evening it may be heard at the distance of nearly a mile, the tones of its voice being stronger and more full than those of the Whip-poor-will, who utters his with much greater rapidity. In the Chickasaw country, and throughout the whole Mississippi territory, I found the present species very numerous in the months of April and May, keeping up a continued noise during the whole evening, and in moonlight throughout the whole of the night.

The flight of this bird is slow, skimming about at a few feet above the surface of the ground, frequently settling on old logs, or on the fences, and from thence sweeping around in pursuit of various winged insects that fly in the night. Like the Whip-poor-will it prefers the declivities of glens and other deeply shaded places, making the surrounding mountains ring with echoes the whole evening. I several times called the attention of the Chickasaws to the notes of this bird, on which occasions they always assumed a grave and thoughtful aspect; but it appeared to me that they made no distinction between the two species; so that whatever superstitious notions they may entertain of the one are probably applied to both.

This singular genus of birds, formed to subsist on the superabundance of nocturnal insects, are exactly and surprisingly fitted for their peculiar mode of life. Their flight is low, to accommodate itself to their prey; silent, that they may be the better concealed, and sweep upon it unawares; their sight most acute in the dusk, when such insects are abroad; their evolutions something like those of the bat, quick and sudden; their mouths capable of prodigious expansion, to seize with more certainty, and furnished with long branching hairs, or bristles, serving as palisadoes to secure what comes between them. Reposing so much during the heats of day they are much infested with vermin, particularly about the head, and are provided with a comb on the inner edge of the middle claw, with which they are often employed in ridding themselves of these pests, at least when in a state of captivity. Having no weapons of defence except their wings, their chief security is in the solitude of night, and in their color and close retreats by day; the former so much resembling that of dead leaves of various hues as not to be readily distinguished from them even when close at hand.

The Chuck-will's-widow lays its eggs, two in number, on the ground, generally, and I believe always, in the woods; it makes no nest; the eggs are of a dull olive color, sprinkled with darker specks, are about

as large as those of a Pigeon, and exactly oval. Early in September they retire from the United States.

This species is twelve inches long, and twenty-six in extent; bill yellowish, tipped with black; the sides of the mouth are armed with numerous long bristles, strong, tapering, and furnished with finer hairs branching from each; cheeks and chin rust color, specked with black; over the eye extends a line of small whitish spots; head and back very deep brown, powdered with cream, rust and bright ferruginous, and marked with long ragged streaks of black; scapulars broadly spotted with deep black, bordered with cream, and interspersed with whitish; the plumage of that part of the neck which falls over the back is long, something like that of a cock, and streaked with yellowish brown; wing quills barred with black and bright rust; tail rounded, extending about an inch beyond the tips of the wings; it consists of ten feathers, the four middle ones are powdered with various tints of ferruginous, and elegantly marked with fine zigzag lines and large herring-bone figures of black; exterior edges of the three outer feathers barred like the wings; their interior vanes for two-thirds of their length are pure snowy white, marbled with black and ferruginous at the base; this white spreads over the greater part of the three outer feathers near their tips; across the throat is a slight band or mark of whitish; breast black, powdered with rust; belly and vent lighter; legs feathered before nearly to the feet, which are of a dirty purplish flesh color; inner side of the middle claw deeply pectinated.

The female differs chiefly in wanting the pure white on the three exterior tail feathers, these being more of a brownish cast.

SPECIES II. *CAPRIMULGUS AMERICANUS*.*

NIGHT-HAWK.

[Plate XL. Fig. 1, Male. Fig. 2, Female.]

Long-winged Goatsucker, Arct. Zool., No. 337.

THIS bird, in Virginia and some of the southern districts, is called a bat; the name Night-hawk is usually given it in the Middle and Northern States, probably on account of its appearance when on wing very much resembling some of our small Hawks, and from its habit of flying chiefly in the evening. Though it is a bird universally known in the United States, and inhabits North America, in summer, from Florida to Hudson's Bay, yet its history has been involved in considerable obscurity by foreign writers, as well as by some of our own country. Of this I shall endeavor to divest it in the present account.

Three species only, of this genus, are found within the United States; the *Chuck-will's-widow*, the *Whip-poor-will*, and the *Night-hawk*. The first of these is confined to those states lying south of Maryland; the other two are found generally over the Union, but are frequently confounded one with the other, and by some supposed to be one and the same bird. A comparison of this with the succeeding plate, which contains the figure of the *Whip-poor-will*, will satisfy those who still have their doubts on this subject; and the great difference of manners which distinguishes each will render this still more striking and satisfactory.

On the last week in April, the *Night-Hawk* commonly makes its first appearance in this part of Pennsylvania. At what particular period they enter Georgia I am unable to say; but I find by my notes, that in passing to New Orleans by land, I first observed this bird in Kentucky on the 21st of April. They soon after disperse generally over the country, from the seashore to the mountains, even to the heights of the Alleghany; and are seen, towards evening, in pairs, playing about, high in air, pursuing their prey, wasps, flies, beetles, and various other winged insects of the larger sort. About the middle of May the female begins to lay. No previous preparation or construction of nest is made; though doubtless the particular spot has been reconnoitred and deter-

* *Caprimulgus popetue*, VIEILL. *Ois. de l'Am. Sept.* pl. 24, female.

mined on. This is sometimes in an open space in the woods, frequently in a ploughed field, or in the corner of a corn-field. The eggs are placed on the bare ground; in all cases on a dry situation, where the color of the leaves, ground, stones or other circumjacent parts of the surface may resemble the general tint of the eggs, and thereby render them less easy to be discovered. The eggs are most commonly two, rather oblong, equally thick at both ends, of a dirty bluish white, and marked with innumerable touches of dark olive brown. To the immediate neighborhood of this spot the male and female confine themselves, roosting on the high trees adjoining, during the greater part of the day, seldom, however, together, and almost always on separate trees. They also sit lengthwise on the branch, fence or limb on which they roost, and never across, like most other birds; this seems occasioned by the shortness and slender form of their legs and feet, which are not at all calculated to grasp the branch with sufficient firmness to balance their bodies.

As soon as incubation commences, the male keeps a most vigilant watch around. He is then more frequently seen playing about in the air over the place, even during the day, mounting by several quick vibrations of the wings, then a few slower, uttering all the while a sharp harsh squeak, till having gained the highest point, he suddenly precipitates himself, head foremost, and with great rapidity, down sixty or eighty feet, wheeling up again as suddenly; at which instant is heard a loud booming sound, very much resembling that produced by blowing strongly into the bung hole of an empty hogshead; and which is doubtless produced by the sudden expansion of his capacious mouth, while he passes through the air, as exhibited in the figure on the plate. He again mounts by alternate quick and leisurely motions of the wings, playing about as he ascends, uttering his usual hoarse squeak, till in a few minutes he again dives with the same impetuosity and violent sound as before. Some are of opinion that this is done to intimidate man or beast from approaching his nest, and he is particularly observed to repeat these divings most frequently around those who come near the spot, sweeping down past them, sometimes so near, and so suddenly, as to startle and alarm them. The same individual is, however, often seen performing these manœuvres over the river, the hill, the meadow and the marsh in the space of a quarter of an hour, and also towards the fall, when he has no nest. This singular habit belongs peculiarly to the male. The female has, indeed, the common hoarse note, and much the same mode of flight; but never precipitates herself in the manner of the male. During the time she is sitting, she will suffer you to approach within a foot or two before she attempts to stir, and when she does, it is in such a fluttering, tumbling manner, and with such appearance of a lame and wounded bird, as nine times in ten to deceive the person, and

induce him to pursue her. This "pious fraud," as the poet Thomson calls it, is kept up until the person is sufficiently removed from the nest, when she immediately mounts and disappears. When the young are first hatched it is difficult to distinguish them from the surface of the ground, their down being of a pale brownish color, and they are altogether destitute of the common shape of birds, sitting so fixed and so squat as to be easily mistaken for a slight prominent mouldiness lying on the ground. I cannot say whether they have two broods in the season; I rather conjecture that they have generally but one.

The Night-hawk is a bird of strong and vigorous flight, and of large volume of wing. It often visits the city, darting and squeaking over the streets at a great height, diving perpendicularly with the same hollow sound as before described. I have also seen them sitting on chimney tops in some of the most busy parts of the city, occasionally uttering their common note.

When the weather happens to be wet and gloomy, the Night-hawks are seen abroad at all times of the day, generally at a considerable height; their favorite time, however, is from two hours before sunset until dusk. At such times they seem all vivacity, darting about in the air in every direction, making frequent short sudden turnings, as if busily engaged in catching insects. Even in the hottest, clearest weather, they are occasionally seen abroad, squeaking at short intervals. They are also often found sitting along the fences, basking themselves in the sun. Near the seashore, in the vicinity of extensive salt marshes, they are likewise very numerous, skimming over the meadows, in the manner of swallows, until it is so dark that the eye can no longer follow them.

When wounded and taken, they attempt to intimidate you by opening their mouth to its utmost stretch, throwing the head forwards, and uttering a kind of guttural whizzing sound, striking also violently with their wings, which seem to be their only offensive weapons; for they never attempt to strike with the bill or claws.

About the middle of August they begin to move off towards the south; at which season they may be seen almost every evening, from five o'clock until after sunset, passing along the Schuylkill and the adjacent shores, in widely scattered multitudes, all steering towards the south. I have counted several hundreds within sight at the same time, dispersed through the air, and darting after insects as they advanced. These occasional processions continue for two or three weeks; none are seen travelling in the opposite direction. Sometimes they are accompanied by at least twice as many Barn Swallows, some Chimney Swallows and Purple Martins. They are also most numerous immediately preceding a northeast storm. At this time also they abound in the extensive meadows on the Schuylkill and Delaware, where I have counted fifteen

skimming over a single field in an evening. On shooting some of these, on the 14th of August, their stomachs were almost exclusively filled with crickets. From one of them I took nearly a common snuff-box full of these insects, all seemingly fresh swallowed.

By the middle or 20th of September very few of these birds are to be seen in Pennsylvania; how far south they go, or at what particular time they pass the southern boundaries of the United States I am unable to say. None of them winter in Georgia.

The ridiculous name *Goatsucker*, which was first bestowed on the European species from a foolish notion that it sucked the teats of the goats, because probably it inhabited the solitary heights where they fed, which nickname has been since applied to the whole genus, I have thought proper to omit. There is something worse than absurd in continuing to brand a whole family of birds with a knavish name, after they are universally known to be innocent of the charge. It is not only unjust, but tends to encourage the belief in an idle fable that is totally destitute of all foundation.

The Night-hawk is nine inches and a half in length, and twenty-three inches in extent; the upper parts are of a very deep blackish brown, unmixed on the primaries, but thickly sprinkled or powdered on the back scapulars and head with innumerable minute spots and streaks of a pale cream color, interspersed with specks of reddish; the scapulars are barred with the same, also the tail coverts and tail, the inner edges of which are barred with white and deep brownish black for an inch and a half from the tip, where they are crossed broadly with a band of white, the two middle ones excepted, which are plain deep brown, barred and sprinkled with light clay; a spot of pure white extends over the five first primaries, the outer edge of the exterior feather excepted, and about the middle of the wing; a triangular spot of white also marks the throat, bending up on each side of the neck; the bill is exceeding small, scarcely one-eighth of an inch in length, and of a black color; the nostrils circular, and surrounded with a prominent rim; eye large and full, of a deep bluish black; the legs are short, feathered a little below the knees, and, as well as the toes, of a purplish flesh color, seamed with white; the middle claw is pectinated on its inner edge, to serve as a comb to clear the bird of vermin; the whole lower parts of the body are marked with transverse lines of dusky and yellowish. The tail is somewhat *shorter* than the wings when shut, is handsomely forked, and consists of ten broad feathers; the mouth is extremely large, and of a reddish flesh color within; *there are no bristles about the bill*; the tongue is very small, and attached to the inner surface of the mouth.

The female measures about nine inches in length and twenty-two in breadth; differs in having no white band on the tail, but has the spot of white on the wing; wants the triangular spot of white on the throat,

instead of which there is a dully defined mark of a reddish cream color; the wings are nearly black, all the quills being slightly tipped with white; the tail is as in the male, and minutely tipped with white; all the scapulars and whole upper parts are powdered with a much lighter gray.

There is no description of the present species in Turton's translation of Linnæus. The characters of the genus given in the same work are also in this case incorrect, viz. "*mouth furnished with a series of bristles—tail not forked,*" the Night-hawk having nothing of the former, and its tail being largely forked.

CAPRIMULGUS VOCIFERUS.*

WHIP-POOR-WILL.

[Plate XLI. Fig. 1, Male. Fig. 2, Female. Fig. 3, Young.]

THIS is a singular and very celebrated species, universally noted over the greater part of the United States for the loud reiterations of his favourite call in spring; and yet personally he is but little known, most people being unable to distinguish this from the preceding species, when both are placed before them; and some insisting that they are the same. This being the case, it becomes the duty of his historian to give a full and faithful delineation of his character and peculiarity of manners, that his existence as a distinct and independent species may no longer be doubted, nor his story mingled confusedly with that of another. I trust that those best acquainted with him will bear witness to the fidelity of the portrait.

On or about the twenty-fifth of April, if the season be not uncommonly cold, the Whip-poor-will is first heard in this part of Pennsylvania, in the evening, as the dusk of twilight commences, or in the morning as soon as dawn has broke. In the state of Kentucky I first heard this bird on the fourteenth of April, near the town of Danville. The notes of this solitary bird, from the ideas which are naturally associated with them, seem like the voice of an old friend, and are listened to by almost all with great interest. At first they issue from some retired part of the woods, the glen or mountain; in a few evenings perhaps we hear them from the adjoining coppice—the garden fence—the road before the door, and even from the roof of the dwelling house, long after the family have retired to rest. Some of the more ignorant and

* *Caprimulgus virginianus*, VIEILL. Ois. de l'Am. Sept. pl. 23.

superstitious consider this near approach as foreboding no good to the family, nothing less than sickness, misfortune or death to some of its members; these visits, however, so often occur without any bad consequences, that this superstitious dread seems on the decline.

He is now a regular acquaintance. Every morning and evening his shrill and rapid repetitions are heard from the adjoining woods, and when two or more are calling out at the same time, as is often the case in the pairing season, and at no great distance from each other, the noise, mingling with the echoes from the mountains, is really surprising. Strangers, in parts of the country where these birds are numerous, find it almost impossible for some time to sleep; while to those long acquainted with them, the sound often serves as a lullaby to assist their repose.

These notes seem pretty plainly to articulate the words which have been generally applied to them, *Whip-poor-will*, the first and last syllables being uttered with great emphasis, and the whole in about a second to each repetition; but when two or more males meet, their whip-poor-will altercations become much more rapid and incessant, as if each were straining to overpower or silence the other. When near, you often hear an introductory *cluck* between the notes. At these times, as well as at almost all others, they fly low, not more than a few feet from the surface, skimming about the house and before the door, alighting on the wood pile, or settling on the roof. Towards midnight they generally become silent, unless in clear moonlight, when they are heard with little intermission till morning. If there be a creek near, with high precipitous bushy banks, they are sure to be found in such situations. During the day they sit in the most retired, solitary and deep shaded parts of the woods, generally on high ground, where they repose in silence. When disturbed they rise within a few feet, sail low and slowly through the woods for thirty or forty yards, and generally settle on a low branch or on the ground. Their sight appears deficient during the day, as, like Owls, they seem then to want that vivacity for which they are distinguished in the morning and evening twilight. They are rarely shot at, or molested; and from being thus transiently seen in the obscurity of dusk, or in the deep umbrage of the woods, no wonder their particular markings of plumage should be so little known, or that they should be confounded with the Night-hawk, whom in general appearance they so much resemble. The female begins to lay about the second week in May, selecting for this purpose the most unfrequented part of the wood, often where some brush, old logs, heaps of leaves, &c., had been lying, and always on a dry situation. The eggs are deposited on the ground, or on the leaves, not the slightest appearance of a nest being visible. These are usually two in number, in shape much resembling those of the Night-hawk, but having the ground color much darker, and more thickly

marbled with dark olive. The precise period of incubation I am unable to say.

In traversing the woods one day, in the early part of June, along the brow of a rocky declivity, a *Whip-poor-will* rose from my feet and fluttered along, sometimes prostrating herself and beating the ground with her wings, as if just expiring. Aware of her purpose, I stood still and began to examine the space immediately around me for the eggs or young, one or the other of which I was certain must be near. After a long search, to my mortification, I could find neither; and was just going to abandon the spot, when I perceived somewhat like a slight mouldiness among the withered leaves, and on stooping down discovered it to be a young Whip-poor-will, seemingly asleep, as its eye-lids were nearly closed; or perhaps this might only be to protect its tender eyes from the glare of day. I sat down by it on the leaves, and drew it as it then appeared (see fig. 3). It was probably not a week old. All the while I was thus engaged it neither moved its body, nor opened its eyes more than half; and I left it as I found it. After I had walked about a quarter of a mile from the spot, recollecting that I had left a pencil behind, I returned and found my pencil, but the young bird was gone.

Early in June, as soon as the young appear, the notes of the male usually cease, or are heard but rarely. Towards the latter part of summer, a short time before these birds leave us, they are again occasionally heard; but their call is then not so loud—much less emphatical, and more interrupted than in spring. Early in September they move off towards the south.

The favorite places of resort for these birds are on high dry situations; in low marshy tracts of country they are seldom heard. It is probably on this account that they are scarce on the seacoast and its immediate neighborhood; while towards the mountains they are very numerous. The Night-hawks, on the contrary, delight in these extensive sea marshes; and are much more numerous there than in the interior and higher parts of the country. But nowhere in the United States have I found the Whip-poor-will in such numbers as in that tract of country in the state of Kentucky called the Barrens. This appears to be their most congenial climate and place of residence. There, from the middle of April to the first of June, as soon as the evening twilight draws on, the shrill and confused clamors of these birds are incessant, and very surprising to a stranger. They soon, however, become extremely agreeable, the inhabitants lie down at night lulled by their whistlings; and the first approach of dawn is announced by a general and lively chorus of the same music; while the full-toned *tooting*, as it is called, of the Pinnated Grouse, forms a very pleasing bass to the whole.

I shall not, in the manner of some, attempt to amuse the reader with a repetition of the unintelligible names given to this bird by the Indians ; or the superstitious notions generally entertained of it by the same people. These seem as various as the tribes, or even families with which you converse ; scarcely two of them will tell you the same story. It is easy however to observe, that this, like the Owl and other nocturnal birds, is held by them in a kind of suspicious awe, as a bird with which they wish to have as little to do as possible. The superstition of the Indian differs very little from that of an illiterate German, a Scots Highlander, or the less informed of any other nation. It suggests ten thousand fantastic notions to each, and these, instead of being recorded with all the punctilio of the most important truths, seem only fit to be forgotten. Whatever, among either of these people, is strange and not comprehended, is usually attributed to supernatural agency ; and an unexpected sight, or uncommon incident, is often ominous of good, but more generally of bad fortune, to the parties. Night, to minds of this complexion, brings with it its kindred horrors, its apparitions, strange sounds and awful sights ; and this solitary and inoffensive bird being a frequent wanderer in these hours of ghosts and hobgoblins, is considered by the Indians, as being by habit and repute little better than one of them. All those people, however, are not so credulous : I have conversed with Indians who treated these silly notions with contempt.

The Whip-poor-will is never seen during the day, unless in circumstances such as have been described. Their food appears to be large moths, grasshoppers, pismires, and such insects as frequent the bark of old rotten and decaying timber. They are also expert in darting after winged insects. They will sometimes skim in the dusk, within a few feet of a person, uttering a kind of low chatter as they pass. In their migrations north, and on their return, they probably stop a day or two at some of their former stages, and do not advance in one continued flight. The Whip-poor-will was first heard this season on the second day of May in a corner of Mr. Bartram's woods, not far from the house, and for two or three mornings after in the same place, where I also saw it. From this time until the beginning of September there were none of these birds to be found, within at least one mile of the place ; though I frequently made search for them. On the fourth of September the Whip-poor-will was again heard for two evenings, successively, in the same part of the woods. I also heard several of them passing, within the same week, between dusk and nine o'clock at night, it being then clear moonlight. These repeated their notes three or four times, and were heard no more. It is highly probable that they migrate during the evening and night.

The Whip-poor-will is nine inches and a half long, and nineteen inches

in extent; the bill is blackish, a full quarter of an inch long, much stronger than that of the Night-hawk, and bent a little at the point, the under mandible arched a little upwards, following the curvature of the upper; the nostrils are prominent and tubular, their openings directed forward; the mouth is extravagantly large, of a pale flesh color within, and beset along the sides with a number of long thick elastic bristles, the longest of which extends more than half an inch beyond the point of the bill, end in fine hair, and curve inwards; these seem to serve as feelers; and prevent the escape of winged insects: the eyes are very large, full, and bluish black; the plumage above is so variegated with black, pale cream, brown, and rust color, sprinkled and powdered in such minute streaks and spots, as to defy description; the upper part of the head is of a light brownish gray, marked with a longitudinal streak of black, with others radiating from it; the back is darker, finely streaked with a less deep black; the scapulars are very light whitish ochre, beautifully variegated with two or three oblique streaks of very deep black; the tail is rounded, consisting of ten feathers, the exterior one an inch and a quarter shorter than the middle ones, the three outer feathers on each side are blackish brown for half their length, thence pure white to the tips, the exterior one is edged with deep brown nearly to the tip; the deep brown of these feathers is regularly studded with light brown spots; the four middle ones are without the white at the ends, but beautifully marked with herring-bone figures of black and light ochre finely powdered; cheeks and sides of the head of a brown orange or burnt color; the wings, when shut, reach scarcely to the middle of the tail, and are elegantly spotted with very light and dark brown, but are entirely without the large spot of white which distinguishes those of the Night-hawk; chin black, streaked with brown; a narrow semicircle of white passes across the throat; breast and belly irregularly mottled and streaked with black and yellow ochre; the legs and feet are of a light purplish flesh color, seamed with white; the former feathered before, nearly to the feet; the two exterior toes are joined to the middle one as far as the first joint by a broad membrane; the inner edge of the middle claw is pectinated, and from the circumstance of its being frequently found with small portions of down adhering to the teeth, is probably employed as a comb to rid the plumage of its head of vermin, this being the principal and almost only part so infested in all birds.

The female is about an inch less in length and in extent; the bill, mustaches, nostrils, &c., as in the male. She differs in being much lighter on the upper parts, seeming as if powdered with grains of meal; and instead of the white on the three lateral tail feathers, has them tipped for about three-quarters of an inch with a cream color; the bar across the throat is also of a brownish ochre; the cheeks and region of

the eyes are brighter brownish orange, which passes also to the neck, and is sprinkled with black and specks of white; the streak over the eye is also lighter.

The young was altogether covered with fine down of a pale brown color; the shafts or rather sheaths of the quills bluish; the point of the bill just perceptible.

Twenty species of this singular genus are now known to naturalists; of these one only belongs to Europe, one to Africa, one to New Holland, two to India, and fifteen to America.

The present species, though it approaches nearer in its plumage to that of Europe than any other of the tribe, differs from it in being entirely without the large spot of white on the wing; and in being considerably less. Its voice, and particular call, are also entirely different.

Farther to illustrate the history of this bird, the following notes are added, made at the time of dissection. Body, when stripped of the skin, less than that of the Wood Thrush; breast bone one inch in length; second stomach strongly muscular, filled with fragments of pismires and grasshoppers; skin of the bird loose, wrinkly and scarcely attached to the flesh; flesh also loose, extremely tender; bones thin and slender; sinews and muscles of the wing feeble; distance between the tips of both mandibles, when expanded, full two inches, length of the opening one inch and a half, breadth one inch and a quarter; tongue very short, attached to the skin of the mouth, its internal part or *os hyoides* pass up the hind head, and reach to the front, like those of the Woodpecker; which enables the bird to revert the lower part of the mouth in the act of seizing insects and in calling; skull extremely light and thin, being semi-transparent, its cavity nearly half occupied by the eyes; aperture for the brain very small, the quantity not exceeding that of a Sparrow; an Owl of the same extent of wing has at least ten times as much.

Though this noted bird has been so frequently mentioned by name, and its manners taken notice of by almost every naturalist who has written on our birds, yet *personally* it has never yet been described by any writer with whose works I am acquainted. Extraordinary as this may seem, it is nevertheless true; and in proof I offer the following facts.

Three species only of this genus are found within the United States, the *Chuck-will's-widow*, the *Night-hawk*, and the *Whip-poor-will*. Catesby, in the eighth plate of his Natural History of Carolina, has figured the first, and in the sixteenth of his Appendix the second; to this he has added particulars of the Whip-poor-will, believing it to be that bird, and has ornamented his figure of the *Night-hawk* with a large bearded appendage, of which in nature it is entirely destitute. After

him Mr. Edwards, in his sixty-third plate, has in like manner figured the Night-hawk, also adding the bristles, and calling his figure the *Whip-poor-will*, accompanying it with particulars of the notes, &c., of that bird, chiefly copied from Catesby. The next writer of eminence who has spoken of the Whip-poor-will is Mr. Pennant, justly considered as one of the most judicious and discriminating of English naturalists; but, deceived by "the lights he had," he has in his account of the Short-winged Goatsucker* (*Arct. Zool.* p. 434), given the size, markings of plumage, &c., of the *Chuck-will's-widow*; and in the succeeding account of his Long-winged Goatsucker, describes pretty accurately the Night-hawk. Both of these birds he considers to be the Whip-poor-will, and as having the same notes and manners.

After such authorities it was less to be wondered at that many of our own citizens and some of our naturalists and writers should fall into the like mistake; as copies of the works of those English naturalists are to be found in several of our colleges, and in some of our public as well as private libraries. The means which the author of *American Ornithology* took to satisfy his own mind, and those of his friends, on this subject, were detailed at large, in a paper published about two years ago, in a periodical work of this city, with which extract I shall close my account of the present species.

"On the question is the Whip-poor-will and the Night-hawk one and the same bird, or are they really two distinct species, there has long been an opposition of sentiment, and many fruitless disputes. Numbers of sensible and observing people, whose intelligence and long residence in the country entitle their opinion to respect, positively assert that the Night-hawk and the Whip-poor-will are very different birds, and do not even associate together. The naturalists of Europe, however, have generally considered the two names as applicable to one and the same species; and this opinion has also been adopted by two of our most distinguished naturalists, Mr. William Bartram, of Kingsessing,† and Professor Barton, of Philadelphia.‡ The writer of this, being determined to ascertain the truth by examining for himself, took the following effectual mode of settling this disputed point, the particulars of which he now submits to those interested in the question.

"Thirteen of those birds usually called Night-hawks, which dart about in the air like Swallows, and sometimes descend with rapidity from a great height, making a hollow sounding noise like that produced

* The figure is by mistake called the *Long-winged Goatsucker*. See *Arctic Zoology*, vol. II., pl. 18.

† *Caprimulgus Americanus*, Night-hawk or Whip-poor-will. *Travels*, p. 292.

‡ *Caprimulgus Virginianus*, Whip-poor-will or Night-hawk. *Fragments of the Natural History of Pennsylvania*, p. 3. See also *Amer. Phil. Trans.* vol. IV., p. 203, 209, note

by blowing into the bung-hole of an empty hogshead, were shot at different times, and in different places, and accurately examined both outwardly and by dissection. Nine of these were found to be males, and four females. The former all corresponded in the markings and tints of their plumage; the latter also agreed in their marks, differing slightly from the males, though evidently of the same species. Two others were shot as they rose from the nests, or rather from the eggs, which in both cases were two in number, lying on the open ground. These also agreed in the markings of their plumage with the four preceding; and on dissection were found to be females. The eggs were also secured. A Whip-poor-will was shot in the evening, while in the act of repeating his usual and well known notes. This bird was found to be a male, differing in many remarkable particulars from all the former. Three others were shot at different times during the day, in solitary and dark shaded parts of the woods. Two of these were found to be females, one of which had been sitting on two eggs. The two females resembled each other almost exactly; the male also corresponded in its markings with the one first found; and all four were evidently of one species. The eggs differed from the former both in color and markings.

“The differences between these two birds were as follow: the sides of the mouth in both sexes of the Whip-poor-will were beset with ranges of long and very strong bristles, extending more than half an inch beyond the point of the bill; both sexes of the Night-hawk were entirely destitute of bristles. The bill of the Whip-poor-will was also more than twice the length of that of the Night-hawk. The long wing quills, of both sexes of the Night-hawk, were of a deep brownish black, with a large spot of white nearly in their middle; and when shut the tips of the wings extended a little *beyond* the tail. The wing quills of the Whip-poor-will, of both sexes, were beautifully spotted with light brown, had no spot of white on them, and when shut the tips of the wings did not reach to the tip of the tail by at least *two* inches. The tail of the Night-hawk was handsomely *forked*, the exterior feathers being the longest, shortening gradually to the middle ones; the tail of the Whip-poor-will was *rounded*, the exterior feathers being the shortest, lengthening gradually to the middle ones.

“After a careful examination of these and several other remarkable differences, it was impossible to withstand the conviction that these birds belonged to two distinct species of the same genus, differing in size, color, and conformation of parts.

“A statement of the principal of these facts having been laid before Mr. Bartram, together with a male and female of each of the above-mentioned species, and also a male of the Great Virginian Bat, or *Chuck-will's-widow*, after a particular examination that venerable natu-

ralist was pleased to declare himself fully satisfied; adding that he had now no doubt of the Night-hawk and the Whip-poor-will being two very distinct species of *Caprimulgus*.

"It is not the intention of the writer of this to enter at present into a description of either the plumage, manners, migrations, or economy of these birds, the range of country they inhabit, or the superstitious notions entertained of them; his only object at present is the correction of an error, which, from the respectability of those by whom it was unwarily adopted, has been but too extensively disseminated, and received by too many as a truth."

ORDER IV. COLUMBÆ. COLUMBINE.

GENUS XLVIII. COLUMBA. PIGEON.

SPECIES I. *C. MIGRATORIA*.

PASSENGER PIGEON.

[Plate XLIV. Fig. 1.]

CATESB. I., 23.—LINN. *Syst.* 285.—TURTON, 479.—*Arct. Zool.* p. 322, No. 187.
—BRISSON, I., 100.—BUFF. II., 527.*

THIS remarkable bird merits a distinguished place in the annals of our feathered tribes; a claim to which I shall endeavor to do justice; and though it would be impossible, in the bounds allotted to this account, to relate all I have seen and heard of this species, yet no circumstance shall be omitted with which I am acquainted (however extraordinary some of these may appear), that may tend to illustrate its history.

The Wild Pigeon of the United States inhabits a wide and extensive region of North America, on this side of the Great Stony Mountains, beyond which to the westward, I have not heard of their being seen. According to Mr. Hutchins, they abound in the country round Hudson's Bay, where they usually remain as late as December, feeding, when the ground is covered with snow, on the buds of juniper. They spread over the whole of Canada—were seen by Captain Lewis and his party near the Great Falls of the Missouri, upwards of two thousand five hundred miles from its mouth, reckoning the meanderings of the river—were also met with in the interior of Louisiana, by Colonel Pike; and extend their range as far south as the Gulf of Mexico; occasionally visiting or breeding in almost every quarter of the United States.

* *Columba migratoria*, LATH. *Ind. Orn.* p. 612, No. 70.

But the most remarkable characteristic of these birds is their associating together, both in their migrations, and also during the period of incubation, in such prodigious numbers as almost to surpass belief; and which has no parallel among any other of the feathered tribes, on the face of the earth, with which naturalists are acquainted.

These migrations appear to be undertaken rather in quest of food, than merely to avoid the cold of the climate, since we find them lingering in the northern regions around Hudson's Bay so late as December; and since their appearance is so casual and irregular; sometimes not visiting certain districts for several years in any considerable numbers, while at other times they are innumerable. I have witnessed these migrations in the Genesee country—often in Pennsylvania, and also in various parts of Virginia, with amazement; but all that I had then seen of them were mere straggling parties, when compared with the congregated millions which I have since beheld in our western forests, in the states of Ohio, Kentucky, and the Indiana territory. These fertile and extensive regions abound with the nutritious beech nut, which constitutes the chief food of the Wild Pigeon. In seasons when these nuts are abundant, corresponding multitudes of Pigeons may be confidently expected. It sometimes happens that having consumed the whole produce of the beech trees in an extensive district they discover another at the distance perhaps of sixty or eighty miles, to which they regularly repair every morning, and return as regularly in the course of the day, or in the evening, to their place of general rendezvous, or as it is usually called the *roosting place*. These roosting places are always in the woods, and sometimes occupy a large extent of forest. When they have frequented one of these places for some time, the appearance it exhibits is surprising. The ground is covered to the depth of several inches with their dung; all the tender grass and underwood destroyed; the surface strewn with large limbs of trees broken down by the weight of the birds clustering one above another; and the trees themselves, for thousands of acres, killed as completely as if girdled with an axe. The marks of this desolation remain for many years on the spot; and numerous places could be pointed out where for several years after, scarce a single vegetable made its appearance.

When these roosts are first discovered, the inhabitants from considerable distances visit them in the night, with guns, clubs, long poles, pots of sulphur, and various other engines of destruction. In a few hours they fill many sacks, and load their horses with them. By the Indians, a Pigeon roost, or breeding place, is considered an important source of national profit and dependence for that season; and all their active ingenuity is exercised on the occasion. The *breeding place* differs from the former in its greater extent. In the western countries above mentioned, these are generally in beech woods, and often extend in nearly

a straight line across the country for a great way. Not far from Shelbyville in the state of Kentucky, about five years ago, there was one of these breeding places, which stretched through the woods in nearly a north and south direction, was several miles in breadth, and was said to be upwards of forty miles in extent! In this tract almost every tree was furnished with nests, wherever the branches could accommodate them. The Pigeons made their first appearance there about the tenth of April, and left it altogether, with their young, before the twenty-fifth of May.

As soon as the young were fully grown, and before they left the nests, numerous parties of the inhabitants, from all parts of the adjacent country, came with wagons, axes, beds, cooking utensils, many of them accompanied by the greater part of their families, and encamped for several days at this immense nursery. Several of them informed me, that the noise in the woods was so great as to terrify their horses, and that it was difficult for one person to hear another speak without bawling in his ear. The ground was strewed with broken limbs of trees, eggs, and squab Pigeons, which had been precipitated from above, and on which herds of hogs were fattening. Hawks, Buzzards, and Eagles, were sailing about in great numbers, and seizing the squabs from their nests at pleasure; while from twenty feet upwards to the tops of the trees the view through the woods presented a perpetual tumult of crowding and fluttering multitudes of Pigeons, their wings roaring like thunder; mingled with the frequent crash of falling timber; for now the axe-men were at work cutting down those trees that seemed to be most crowded with nests; and contrived to fell them in such a manner, that in their descent they might bring down several others; by which means the falling of one large tree sometimes produced two hundred squabs, little inferior in size to the old ones, and almost one mass of fat. On some single trees upwards of one hundred nests were found, each containing *one* young only, a circumstance in the history of this bird not generally known to naturalists. It was dangerous to walk under these flying and fluttering millions, from the frequent fall of large branches, broken down by the weight of the multitudes above, and which in their descent often destroyed numbers of the birds themselves; while the clothes of those engaged in traversing the woods were completely covered with the excrements of the Pigeons.

These circumstances were related to me by many of the most respectable part of the community in that quarter; and were confirmed in part by what I myself witnessed. I passed for several miles through this same breeding place, where every tree was spotted with nests, the remains of those above described. In many instances, I counted upwards of ninety nests on a single tree; but the Pigeons had abandoned this place for another, sixty or eighty miles off, towards Green

river, where they were said at that time to be equally numerous. From the great numbers that were constantly passing over head, to or from that quarter, I had no doubt of the truth of this statement. The mast had been chiefly consumed in Kentucky, and the Pigeons, every morning, a little before sunrise, set out for the Indiana territory, the nearest part of which was about sixty miles distant. Many of these returned before ten o'clock, and the great body generally appeared on their return a little after noon.

I had left the public road, to visit the remains of the breeding place near Shelbyville, and was traversing the woods with my gun, in my way to Frankfort, when about one o'clock the Pigeons, which I had observed flying the greater part of the morning northerly, began to return in such immense numbers as I never before had witnessed. Coming to an opening by the side of a creek called the Benson, where I had a more uninterrupted view, I was astonished at their appearance. They were flying with great steadiness and rapidity, at a height beyond gunshot, in several strata deep, and so close together, that could shot have reached them, one discharge could not have failed of bringing down several individuals. From right to left as far as the eye could reach, the breadth of this vast procession extended; seeming everywhere equally crowded. Curious to determine how long this appearance would continue, I took out my watch to note the time, and sat down to observe them. It was then half past one. I sat for more than an hour, but instead of a diminution of this prodigious procession, it seemed rather to increase both in numbers and rapidity; and, anxious to reach Frankfort before night, I rose and went on. About four o'clock in the afternoon I crossed the Kentucky river, at the town of Frankfort, at which time the living torrent above my head seemed as numerous and as extensive as ever. Long after this I observed them, in large bodies that continued to pass for six or eight minutes, and these again were followed by other detached bodies, all moving in the same south-east direction, till after six in the evening. The great breadth of front which this mighty multitude preserved; would seem to intimate a corresponding breadth of their breeding place, which by several gentlemen who had lately passed through part of it, was stated to me at *several* miles. It was said to be in Green county, and that the young began to fly about the middle of March. On the seventeenth of April, forty-nine miles beyond Danville, and not far from Green river, I crossed this same breeding place, where the nests for more than three miles spotted every tree; the leaves not being yet out, I had a fair prospect of them, and was really astonished at their numbers. A few bodies of Pigeons lingered yet in different parts of the woods, the roaring of whose wings was heard in various quarters around me.

All accounts agree in stating, that each nest contains only one

young.* This is so extremely fat, that the Indians, and many of the whites, are accustomed to melt down the fat for domestic purposes as a substitute for butter and lard. At the time they leave the nest they are nearly as heavy as the old ones; but become much leaner after they are turned out to shift for themselves.

It is universally asserted in the western countries, that the Pigeons, though they have only one young at a time, breed thrice, and sometimes four times, in the same season; the circumstances already mentioned render this highly probable. It is also worthy of observation, that this takes place during that period when acorns, beech nuts, &c., are scattered about in the greatest abundance, and mellowed by the frost. But they are not confined to these alone; buckwheat, hempseed, Indian corn, hollyberries, hackberries, huckleberries, and many others furnished them with abundance at almost all seasons. The acorns of the live oak are also eagerly sought after by these birds, and rice has been frequently found in individuals killed many hundred miles to the northward of the nearest rice plantation. The vast quantity of mast which these multitudes consume, is a serious loss to the bears, pigs, squirrels and other dependants on the fruits of the forest. I have taken from the crop of a single Wild Pigeon, a good handful of the kernels of beech nuts, intermixed with acorns and chestnuts. To form a rough estimate of the daily consumption of one of these immense flocks, let us first attempt to calculate the numbers of that above mentioned, as seen in passing between Frankfort and the Indiana territory. If we suppose this column to have been one mile in breadth (and I believe it to have been much more), and that it moved at the rate of one mile in a minute; four hours, the time it continued passing, would make its whole length two hundred and forty miles. Again supposing that each square yard of this moving body comprehended three Pigeons, the square yards in the whole space, multiplied by three, would give two thousand two hundred and thirty millions, two hundred and seventy-two thousand pigeons! An almost inconceivable multitude, and yet probably far below the actual amount. Computing each of these to consume half a pint of mast daily, the whole quantity at this rate, would equal seventeen millions four hundred and twenty-four thousand bushels per day! Heaven has wisely and graciously given to these birds rapidity of flight, and a disposition to range over vast uncultivated tracts of the earth; otherwise they must have perished in the districts where they resided, or devoured up the whole productions of agriculture, as well as those of the forests.

* It seems probable that our author was misinformed on this head, as it has been stated to us that the Passenger Pigeon, in common with all the other known species of the genus *Columba*, lays two eggs.

A few observations on the mode of flight of these birds must not be omitted. The appearance of large detached-bodies of them in the air, and the various evolutions they display, are strikingly picturesque and interesting. In descending the Ohio, by myself, in the month of February, I often rested on my oars to contemplate their aerial manœuvres. A column, eight or ten miles in length, would appear from Kentucky, high in air, steering across to Indiana. The leaders of this great body would sometimes gradually vary their course, until it formed a large bend of more than a mile in diameter, those behind tracing the exact route of their predecessors. This would continue sometimes long after both extremities were beyond the reach of sight, so that the whole, with its glittery undulations, marked a space on the face of the heavens resembling the windings of a vast and majestic river. When this bend became very great, the birds, as if sensible of the unnecessary circuitous course they were taking, suddenly changed their direction, so that what was in column before became an immense front, straightening all its indentures, until it swept the heavens in one vast and infinitely extended line. Other lesser bodies also united with each other, as they happened to approach, with such ease and elegance of evolution, forming new figures, and varying these as they united or separated, that I was never tired of contemplating them. Sometimes a Hawk would make a sweep on a particular part of the column, from a great height, when almost as quick as lightning, that part shot downwards out of the common track, but soon rising again, continued advancing at the same height as before; this inflection was continued by those behind, who on arriving at this point, dived down almost perpendicularly, to a great depth, and rising followed the exact path of those that went before. As these vast bodies passed over the river near me, the surface of the water, which was before smooth as glass, appeared marked with innumerable dimples, occasioned by the dropping of their dung, resembling the commencement of a shower of large drops of rain or hail.

Happening to go ashore one charming afternoon, to purchase some milk at a house that stood near the river, and while talking with the people within doors, I was suddenly struck with astonishment at a loud rushing roar, succeeded by instant darkness, which, on the first moment, I took for a tornado about to overwhelm the house, and everything around, in destruction. The people observing my surprise, coolly said, "It is only the Pigeons;" and on running out I beheld a flock, thirty or forty yards in width, sweeping along very low, between the house and the mountain or height that formed the second bank of the river. These continued passing for more than a quarter of an hour, and at length varied their bearing so as to pass over the mountain, behind which they disappeared before the rear came up.

In the Atlantic States, though they never appear in such unparal-

leled multitudes, they are sometimes very numerous; and great havoc is then made amongst them with the gun, the clap-net, and various other implements of destruction. As soon as it is ascertained in a town that the Pigeons are flying numerously in the neighborhood, the gunners rise *en masse*; the clap-nets are spread out on suitable situations, commonly on an open height, in an old buckwheat field; four or five live Pigeons, with their eyelids sewed up, are fastened on a movable stick—a small hut of branches is fitted up for the fowler at the distance of forty or fifty yards; by the pulling of a string, the stick on which the Pigeons rest is alternately elevated and depressed, which produces a fluttering of their wings similar to that of birds just alighting; this being perceived by the passing flocks, they descend with great rapidity, and finding corn, buckwheat, &c., strewed about, begin to feed, and are instantly, by the pulling of a cord, covered with the net. In this manner ten, twenty, and even thirty dozen, have been caught at one sweep. Meantime the air is darkened with large bodies of them moving in various directions; the woods also swarm with them in search of acorns; and the thundering of musketry is perpetual on all sides from morning to night. Wagon-loads of them are poured into market, where they sell from fifty to twenty-five and even twelve cents per dozen; and Pigeons become the order of the day at dinner, breakfast and supper, until the very name becomes sickening. When they have been kept alive, and fed for some time on corn and buckwheat, their flesh acquires great superiority; but in their common state they are dry and blackish, and far inferior to the full grown young ones, or squabs.

The nest of the Wild Pigeon is formed of a few dry slender twigs, carelessly put together, and with so little concavity, that the young one, when half grown, can easily be seen from below. The eggs are pure white. Great numbers of Hawks, and sometimes the Bald Eagle himself, hover about those breeding places, and seize the old or the young from the nest amidst the rising multitudes, and with the most daring effrontery. The young, when beginning to fly, confine themselves to the under part of the tall woods where there is no brush, and where nuts and acorns are abundant, searching among the leaves for mast, and appear like a prodigious torrent rolling along through the woods, every one striving to be in the front. Vast numbers of them are shot while in this situation. A person told me, that he once rode furiously into one of these rolling multitudes, and picked up thirteen Pigeons, which had been trampled to death by his horse's feet. In a few minutes they will beat the whole nuts from a tree with their wings; while all is a scramble, both above and below, for the same. They have the same cooing notes common to domestic Pigeons; but much less of their gesticulations. In some flocks you will find nothing but young ones, which are easily distinguishable by their motley dress. In others they will be

mostly females; and again great multitudes of males, with few or no females. I cannot account for this in any other way than that during the time of incubation the males are exclusively engaged in procuring food, both for themselves and their mates; and the young being unable yet to undertake these extensive excursions, associate together accordingly. But even in winter I know of several species of birds who separate in this manner, particularly the Red-winged Starling, among whom thousands of old males may be found, with few or no young or females along with them.

Stragglers from these immense armies settle in almost every part of the country, particularly among the beech woods, and in the pine and hemlock woods of the eastern and northern parts of the continent. Mr. Pennant informs us, that they breed near Moose Fort at Hudson's Bay, in N. lat. 51° , and I myself have seen the remains of a large breeding place as far south as the country of the Choctaws, in lat. 32° . In the former of these places they are said to remain until December; from which circumstance it is evident that they are not regular in their migrations, like many other species, but rove about, as scarcity of food urges them. Every spring, however, as well as fall, more or less of them are seen in the neighborhood of Philadelphia; but it is only once in several years that they appear in such formidable bodies; and this commonly when the snows are heavy to the north, the winter here more than usually mild, and acorns, &c., abundant.

The Passenger Pigeon is sixteen inches long, and twenty-four inches in extent; bill black; nostril covered by a high rounding protuberance; eye brilliant fiery orange; orbit, or space surrounding it, purplish flesh-colored skin; head, upper part of the neck, and chin, a fine slate blue, lightest on the chin; throat, breast and sides, as far as the thighs, a reddish hazel; lower part of the neck and sides of the same resplendent changeable gold, green and purplish crimson, the latter most predominant; the ground color slate; the plumage of this part is of a peculiar structure, ragged at the ends; belly and vent white; lower part of the breast fading into a pale vinaceous red; thighs the same, legs and feet lake, seamed with white; back, rump and tail-coverts, dark slate, spotted on the shoulders with a few scattered marks of black; the scapulars tinged with brown; greater coverts light slate; primaries and secondaries dull black, the former tipped and edged with brownish white; tail long, and greatly cuneiform, all the feathers tapering towards the point, the two middle ones plain deep black, the other five, on each side, hoary white, lightest near the tips, deepening into bluish near the bases, where each is crossed on the inner vane with a broad spot of black, and nearer the root with another of ferruginous; primaries edged with white; bastard wing black.

The female is about half an inch shorter, and an inch less in extent;

breast cinereous brown; upper part of the neck inclining to ash; the spot of changeable gold green and carmine much less, and not so brilliant, tail-coverts brownish slate; naked orbits slate colored; in all other respects like the male in color, but less vivid, and more tinged with brown; the eye not so brilliant an orange. In both, the tail has only twelve feathers.

SPECIES II. *COLUMBA CAROLINENSIS*.

CAROLINA PIGEON, OR TURTLE DOVE.

[Plate XLIII. Fig. 1.]

LINN. *Syst.* 286.—CATESB. *Car.* 1, 24.—BUFF. II., 557. *Pl. Enl.* 175.—*La Tourterelle de la Caroline*, BRISSON, I., 110.—TURTON, 479.—*Arct. Zool.* II., No. 188.*

THIS is a favorite bird with all those who love to wander among our woods in spring, and listen to their varied harmony. They will there hear many a singular and sprightly performer; but none so mournful as this. The hopeless woe of settled sorrow, swelling the heart of female innocence itself, could not assume tones more sad, more tender and affecting. Its notes are four; the first is somewhat the highest, and preparatory, seeming to be uttered with an inspiration of the breath, as if the afflicted creature were just recovering its voice from the last convulsive sobs of distress; this is followed by three long, deep and mournful moanings, that no person of sensibility can listen to without sympathy. A pause of a few minutes ensues; and again the solemn voice of sorrow is renewed as before. This is generally heard in the deepest shaded parts of the woods, frequently about noon, and towards the evening.

There is, however, nothing of real distress in all this; quite the reverse. The bird who utters it wantons by the side of his beloved partner, or invites her by his call to some favorite retired and shady retreat. It is the voice of love, of faithful connubial affection, for which the whole family of Doves are so celebrated; and among them all none more deservingly so than the species now before us.

The Turtle Dove is a general inhabitant, in summer, of the United States, from Canada to Florida, and from the sea-coast to the Mississippi, and far to the westward. They are, however, partially migratory in the Northern and Middle States; and collect together in North and

* *Columba Carolinensis*, LATH. *Ind. Orn.*, p. 613, No. 71. *C. Canadensis*? *Id. ib.* No. 72.

South Carolina, and their corresponding parallels, in great numbers, during the winter. On the second of February, in the neighborhood of Newbern, North Carolina, I saw a flock of Turtle Doves of many hundreds; in other places, as I advanced farther south, particularly near the Savannah river, in Georgia, the woods were swarming with them, and the whistling of their wings was heard in every direction.

On their return to the north in March, and early in April, they disperse so generally over the country, that there are rarely more than three or four seen together, most frequently only two. Here they commonly fly in pairs, resort constantly to the public roads, to dust themselves, and procure gravel; are often seen in the farmer's yard, before the door, the stable, barn, and other outhouses, in search of food, seeming little inferior in familiarity at such times to the domestic Pigeon. They often mix with the poultry, while they are fed in the morning, visit the yard and adjoining road many times a day, and the pump, creek, horse-trough and rills for water.

Their flight is quick, vigorous, and always accompanied by a peculiar whistling of the wings, by which they can easily be distinguished from the Wild Pigeon. They fly with great swiftness, alight on trees, fences, or on the ground indiscriminately; are exceedingly fond of buckwheat, hempseed, and Indian corn; feed on the berries of the holly, the dogwood and poke, huckleberries, partridgeberries, and the small acorns of the live oak, and shrub oak. They devour large quantities of gravel, and sometimes pay a visit to the kitchen garden for peas, for which they have a particular regard.

In this part of Pennsylvania they commence building about the beginning of May. The nest is very rudely constructed, generally in an evergreen—among the thick foliage of a vine—in an orchard, on the horizontal branches of an apple-tree, and in some cases on the ground. It is composed of a handful of small twigs, laid with little art, on which are scattered dry fibrous roots of plants, and in this almost flat bed are deposited two eggs, of a snowy whiteness. The male and female unite in feeding the young, and they have rarely more than two broods in the same season.

The flesh of this bird is considered much superior to that of the Wild Pigeon; but its seeming confidence in man, the tenderness of its notes, and the innocence attached to its character, are with many its security and protection; with others, however, the tenderness of its *flesh*, and the sport of shooting, overcome all other considerations. About the commencement of frost, they begin to move off to the south; numbers, however, remain in Pennsylvania during the whole winter.

The Turtle Dove is twelve inches long, and seventeen inches in extent; bill black; eye of a glossy blackness, surrounded with a pale greenish blue skin; crown, upper part of the neck and wings a fine silky slate

blue; back, scapulars and lesser wing-coverts ashy brown; tertials spotted with black; primaries edged and tipped with white; forehead, sides of the neck and breast, a pale brown vinous orange; under the ear feathers a spot or drop of deep black; immediately below which the plumage reflects the most vivid tints of green, gold and crimson; chin pale yellow ochre; belly and vent whitish; legs and feet coral red, seamed with white; the tail is long and cuneiform, consisting of fourteen feathers; the four exterior ones on each side are marked with black about an inch from the tips, and white thence to the extremity; the next has less of the white at the tip; these gradually lengthen to the four middle ones, which are wholly dark slate; all of them taper towards the points, the two middle ones most so.

The female is an inch shorter, and is otherwise only distinguished by the less brilliancy of her color; she also wants the rich silky blue on the crown, and much of the splendor of the neck; the tail is also somewhat shorter, and the white with which it is marked less pure.

SPECIES III. *COLUMBA PASSERINA*.

GROUND DOVE.

[Plate XLVI. Fig. 2, Male.—Fig. 3, Female.]

LINN. *Syst.* 285.—SLOAN. *Jam.* II., 305.—*Le Cocotzin, Fernandez*, 24.—BUFF. II., 559, *Pl. Enl.* 243.—*La petite Tourterelle*, BRISS. I., 113.—TURT. *Syst.* 478.—*Columba minuta*, Ibid. p. 479.*—*Arct. Zool.* p. 328, No. 191.—CATESB. I., 26.†

THIS is one of the least of the Pigeon tribe, whose timid and innocent appearance forms a very striking contrast to the ferocity of the Bird-killer of the same plate. Such as they are in nature, such I have endeavored faithfully to represent them. I have been the more particular with this minute species, as no correct figure of it exists in any former work with which I am acquainted.

The Ground Dove is a native of North and South Carolina, Georgia, the new state of Louisiana, Florida, and the islands of the West Indies. In the latter it is frequently kept in cages; is esteemed excellent for the table, and honored by the French planters with the name of Ortolan. They are numerous in the sea islands on the coast of Carolina and Georgia; fly in flocks or coveys of fifteen or twenty; seldom visit the

* Prince Musignano considers this synonyme is incorrect.

† *Columba Passerina*, LATH. *Ind. Orn.* p. 611, No. 67, *C. minuta*, Id. p. 612, No. 68.

woods, preferring open fields and plantations; are almost constantly on the ground, and when disturbed fly to a short distance and again alight. They have a frequent jetting motion with the tail; feed on rice, various seeds and berries, particularly those of the Tooth-ache tree,* under or near which, in the proper season, they are almost sure to be found. Of their nest or manner of breeding I am unable, at present, to give any account.

These birds seem to be confined to the districts lying south of Virginia. They are plenty on the upper parts of Cape Fear river, and in the interior of Carolina and Georgia; but I have never met with them either in Maryland, Delaware, or Pennsylvania. They never congregate in such multitudes as the common Wild Pigeon; or even as the Carolina Pigeon or Turtle Dove; but, like the Partridge or Quail, frequent the open fields in small coveys. They are easily tamed; have a low tender cooing note, accompanied with the usual gesticulations of their tribe.

The Ground Dove is a bird of passage, retiring to the islands and to the more southerly parts of the continent on the approach of winter, and returning to its former haunts early in April. It is of a more slender and delicate form, and less able to bear the rigors of cold, than either of the other two species common in the United States, both of which are found in the northern regions of Canada, as well as in the genial climate of Florida.

The DOVE, generally speaking, has long been considered as the favorite emblem of peace and innocence, probably from the respectful manner in which its name is mentioned in various parts of Scripture; its being selected from among all the birds by Noah to ascertain the state of the deluge, and returning to the ark, bearing the olive leaf as a messenger of peace and good tidings; the Holy Ghost, it is also said, was seen to descend *like a dove* from heaven, &c., &c. In addition to these, there is in the Dove an appearance of meekness and innocency very interesting, and well calculated to secure our partiality in its favor. These remarks are applicable to the whole genus; but are more particularly so to the species now before us, as being among the least, the most delicate and inoffensive, of the whole.

The Ground Dove is six inches and a quarter long; bill yellow, black at the point; nostril covered with a prominent membrane, as is usual with the genus; iris of the eye orange red; front, throat, breast and sides of the neck, pale vinaceous purple; the feathers strongly defined by semicircular outlines, those on the throat centered with dusky blue; crown and hind head a fine pale blue, intermixed with purple, the plumage like that on the throat strongly defined; back cinereous brown,

* *Xanthoxylum Clava Herculis*.

the scapulars deeply tinged with pale purple, and marked with detached drops of glossy blue, reflecting tints of purple; belly pale vinaceous brown, becoming dark cinereous towards the vent, where the feathers are bordered with white; wing quills dusky outwardly and at the tips; lower sides, and whole interior vanes, a fine red chestnut, which shows itself a little below their coverts; tail rounded, consisting of twelve feathers, the two middle ones cinereous brown, the rest black, tipped and edged with white; legs and feet yellow.

The female has the back and tail coverts of a mouse color, with little or none of the vinaceous tint on the breast and throat, nor any of the light blue on the hind head; the throat is speckled with dull white, pale clay color, and dusky; sides of the neck the same, the plumage strongly defined; breast cinereous brown, slightly tinted with purple; scapulars marked with large drops of a dark purplish blood color, reflecting tints of blue; rest of the plumage nearly the same as that of the male.

GENUS LVI. TETRAO.

SPECIES I. *T. UMBELLUS.*

RUFFED GROUSE.

[Plate XLIX.]

Arct. Zool. p. 301, No. 179.—*Ruffed Heath-cock, or Grouse*, EDW. 248.—*La Gelinote huppée de Pennsylvanie*, BRISS. I., 214.—*Pl. Enl.* 104.—*BUFF.* II., 281.—*Phil. Trans.* 62, 393.—*TURT. Syst.* 454.

THIS is the *Partridge* of the Eastern States, and the *Pheasant* of Pennsylvania, and the southern districts. It is represented in the plate of its full size; and was faithfully copied from a perfect and very beautiful specimen.

This elegant species is well known in almost every quarter of the United States, and appears to inhabit a very extensive range of country. It is common at Moose Fort, on Hudson's Bay, in lat. 51°; is frequent in the upper parts of Georgia; very abundant in Kentucky and the Indiana territory; and was found by Captains Lewis and Clarke in crossing the great range of mountains that divide the waters of the Columbia and Missouri, more than three thousand miles, by their measurement, from the mouth of the latter. Its favorite places of resort are high mountains, covered with the balsam pine, hemlock, and such like evergreens. Unlike the Pinnated Grouse, it always prefers the woods; is seldom or never found in open plains; but loves the pine-

sheltered declivities of mountains, near streams of water. This great difference of disposition in two species, whose food seems to be nearly the same, is very extraordinary. In those open plains called the Barrens of Kentucky, the Pinnated Grouse was seen in great numbers, but none of the Ruffed; while in the high groves with which that singular tract of country is interspersed, the latter, or Pheasant, was frequently met with; but not a single individual of the former.

The native haunts of the Pheasant being a cold, high, mountainous and woody country, it is natural to expect that as we descend thence to the sea shores, and the low, flat and warm climate of the Southern States, these birds should become more rare, and such indeed is the case. In the lower parts of Carolina, Georgia and Florida, they are very seldom observed; but as we advance inland to the mountains, they again make their appearance. In the lower parts of New Jersey we indeed occasionally meet with them; but this is owing to the more northerly situation of the country; for even here they are far less numerous than among the mountains.

Dr. Turton, and several other English writers, have spoken of a Long-tailed Grouse, said to inhabit the back parts of Virginia, which can be no other than the present species, there being, as far as I am acquainted, only these two, the Ruffed and Pinnated Grouse, found native within the United States.

The manners of the Pheasant are solitary; they are seldom found in coveys of more than four or five together, and more usually in pairs or singly. They leave their sequestered haunts in the woods early in the morning, and seek the path or road, to pick up gravel, and glean among the droppings of the horses. In travelling among the mountains that bound the Susquehanna, I was always able to furnish myself with an abundant supply of these birds, every morning, without leaving the path. If the weather be foggy, or lowering, they are sure to be seen in such situations. They generally move along with great stateliness, their broad fan-like tail spread out in the manner exhibited in the drawing. The drumming, as it is usually called, of the Pheasant, is another singularity of this species. This is performed by the male alone. In walking through solitary woods frequented by these birds, a stranger is surprised by suddenly hearing a kind of thumping, very similar to that produced by striking two full-blown ox-bladders together, but much louder; the strokes at first are slow and distinct; but gradually increase in rapidity till they run into each other, resembling the rumbling sound of very distant thunder, dying away gradually on the ear. After a few minutes' pause, this is again repeated; and in a calm day may be heard nearly a half mile off. This drumming is most common in spring, and is the call of the cock to his favorite female. It is produced in the following manner. The bird, standing on an old prostrate log, generally

in a retired and sheltered situation, lowers his wings, erects his expanded tail, contracts his throat, elevates the two tufts of feathers on the neck, and inflates his whole body, something in the manner of the turkey cock, strutting and wheeling about with great stateliness. After a few manœuvres of this kind, he begins to strike with his stiffened wings in short and quick strokes, which become more and more rapid until they run into each other as has been already described. This is most common in the morning and evening, though I have heard them drumming at all hours of the day. By means of this, the gunner is led to the place of his retreat; though to those unacquainted with the sound, there is great deception in the supposed distance, it generally appearing to be much nearer than it really is.

The Pheasant begins to pair in April, and builds its nest early in May. This is placed on the ground at the root of a bush, old log, or other sheltered and solitary situation, well surrounded with withered leaves. Unlike that of the Quail, it is open above, and is usually composed of dry leaves and grass. The eggs are from nine to fifteen in number, of a brownish white, without any spots, and nearly as large as those of a pullet. The young leave the nest as soon as hatched, and are directed by the cluck of the mother, very much in the manner of the common hen. On being surprised, she exhibits all the distress and affectionate manœuvres of the Quail, and of most other birds, to lead you away from the spot. I once started a hen Pheasant, with a single young one, seemingly only a few days old; there might have been more, but I observed only this one. The mother fluttered before me for a moment, but suddenly darting towards the young one, seized it in her bill, and flew off along the surface through the woods, with great steadiness and rapidity, till she was beyond my sight, leaving me in great surprise at the incident. I made a very close and active search around the spot for the rest, but without success. Here was a striking instance of something more than what is termed blind instinct, in this remarkable deviation from her usual manœuvres, when she has a numerous brood. It would have been impossible for me to injure this affectionate mother, who had exhibited such an example of presence of mind, reason and sound judgment, as must have convinced the most bigoted advocates of mere *instinct*. To carry off a whole brood in this manner, at once, would have been impossible, and to attempt to save one at the expense of the rest would be unnatural. She therefore usually takes the only possible mode of saving them in that case, by decoying the person in pursuit of herself, by such a natural imitation of lameness as to impose on most people. But here, in the case of a single solitary young one, she instantly altered her plan, and adopted the most simple and effectual means for its preservation.

The Pheasant generally springs within a few yards, with a loud whir-

ring noise, and flies with great vigor through the woods, beyond reach of view, before it alights. With a good dog, however, they are easily found; and at some times exhibit a singular degree of infatuation, by looking down, from the branches where they sit, on the dog below, who, the more noise he keeps up, seems the more to confuse and stupefy them, so that they may be shot down, one by one, till the whole are killed, without attempting to fly off. In such cases, those on the lower limbs must be taken first, for should the upper ones be first killed, in their fall they alarm those below, who immediately fly off. In deep snows they are usually taken in traps, commonly dead-traps, supported by a figure 4 trigger. At this season, when suddenly alarmed, they frequently dive into the snow, particularly when it has newly fallen, and coming out at a considerable distance, again take wing. They are pretty hard to kill, and will often carry off a large load to the distance of two hundred yards, and drop down dead. Sometimes in the depth of winter they approach the farm house, and lurk near the barn, or about the garden. They have also been often taken young and tamed, so as to associate with the fowls; and their eggs have frequently been hatched under the common hen; but these rarely survive until full grown. They are exceedingly fond of the seeds of grapes; occasionally eat ants, chestnuts, blackberries, and various vegetables. Formerly they were numerous in the immediate vicinity of Philadelphia; but as the woods were cleared, and population increased, they retreated to the interior. At present there are very few to be found within several miles of the city, and those only singly, in the most solitary and retired woody recesses.

The Pheasant is in best order for the table in September and October. At this season they feed chiefly on whortleberries, and the little red aromatic partridgeberries, the last of which gives their flesh a peculiar delicate flavor. With the former our mountains are literally covered from August to November; and these constitute at that season the greater part of their food. During the deep snows of winter, they have recourse to the buds of alder, and the tender buds of the laurel. I have frequently found their crops distended with a large handful of these latter alone; and it has been confidently asserted, that after having fed for some time on the laurel buds, their flesh becomes highly dangerous to eat of, partaking of the poisonous qualities of the plant. The same has been asserted of the flesh of the deer, when in severe weather, and deep snows, they subsist on the leaves and bark of the laurel. Though I have myself eat freely of the flesh of the Pheasant, after emptying it of large quantities of laurel buds, without experiencing any bad consequences, yet, from the respectability of those, some of them eminent physicians, who have particularized cases in which it has proved deleterious, and even fatal, I am inclined to believe that in certain cases

where this kind of food has been long continued, and the birds allowed to remain undrawn for several days, until the contents of the crop and stomach have had time to diffuse themselves through the flesh, as is too often the case, it may be unwholesome, and even dangerous. Great numbers of these birds are brought to our markets, at all times during fall and winter, some of which are brought from a distance of more than a hundred miles, and have been probably dead a week or two, unpicked and undrawn, before they are purchased for the table. Regulations prohibiting them from being brought to market, unless picked and drawn, would very probably be a sufficient security from all danger. At these inclement seasons, however, they are generally lean and dry, and indeed at all times their flesh is far inferior to that of the Quail, or of the Pinnated Grouse. They are usually sold in Philadelphia market at from three-quarters of a dollar to a dollar and a quarter a pair, and sometimes higher.

The Pheasant or Partridge of New England, is eighteen inches long, and twenty-three inches in extent; bill a horn color, paler below; eye reddish hazel, immediately above which is a small spot of bare skin of a scarlet color; crested head and neck, variegated with black, red brown, white and pale brown; sides of the neck furnished with a tuft of large black feathers, twenty-nine or thirty in number, which it occasionally raises: this tuft covers a large space of the neck destitute of feathers; body above a bright rust color, marked with oval spots of yellowish white, and sprinkled with black; wings plain olive brown, exteriorly edged with white, spotted with olive; the tail is rounding, extends five inches beyond the tips of the wings, is of a bright reddish brown beautifully marked with numerous waving transverse bars of black, is also crossed by a broad band of black within half an inch of the tip, which is bluish white, thickly sprinkled and specked with black; body below white, marked with large blotches of pale brown; the legs are covered half way to the feet with hairy down, of a brownish white color; legs and feet pale ash; toes pectinated along the sides, the two exterior ones joined at the base as far as the first joint by a membrane; vent yellowish rust color.

The female and young birds differ in having the ruff or tufts of feathers on the neck of a dark brown color, as well as the bar of black on the tail inclining much to the same tint.

SPECIES II. *TETRAO CUPIDO*.
PINNATED GROUSE.

[Plate XXVII. Fig. 1.]

LINN. *Syst.* I., p. 274, 5.—LATH. II., p. 740.—*Arct. Zool.*—*La Gelinote huppée d'Amérique*, BRISS. *Orn.* I., p. 212, 10.—*Urogalus minor, fuscus cervice, plumis alas imitantibus donata*, CATESB. *Cur. App.* pl. 1.—*Tetrao lagopus, the Mountain Cock, or Grouse*, BARTRAM, p. 290.—*Heath-hen, Prairie-hen, Barren-hen.*

BEFORE I enter on a detail of the observations which I have myself personally made on this singular species, I shall lay before the reader a comprehensive and very circumstantial memoir on the subject, communicated to me by the writer, Dr. Samuel L. Mitchill of New York, whose exertions, both in his public and private capacity, in behalf of science, and in elucidating the natural history of his country, are well known; and highly honorable to his distinguished situation and abilities. That peculiar tract generally known by the name of the Brushy Plains of Long Island, having been, for time immemorial, the resort of the bird now before us, some account of this particular range of country seemed necessarily connected with the subject, and has accordingly been obligingly attended to by the learned professor.

“NEW YORK, Sept. 19th, 1810.

“Dear Sir,

“It gives me great pleasure to reply to your letter of the twelfth instant, asking of me information concerning the Grouse of Long Island.

“The birds which are known there emphatically by the name of Grouse, inhabit chiefly the forest-range. This district of the island may be estimated as being between forty and fifty miles in length, extending from Bethphage in Queens county to the neighborhood of the court-house in Suffolk. Its breadth is not more than six or seven. For although the island is bounded by the Sound separating it from Connecticut on the north, and by the Atlantic Ocean on the south, there is a margin of several miles on each side in the actual possession of human beings.

“The region in which these birds reside, lies mostly within the towns of Oysterbay, Huntington, Islip, Smithtown, and Brook Haven; though it would be incorrect to say, that they were not to be met with some-

times in Riverhead and Southampton.—Their territory has been defined by some sportsmen, as situated between Hempstead-plain on the west, and Shinnecock-plain on the east.

"The more popular name for them is *Heath-hens*. By this they are designated in the act of our legislature for the preservation of them and of other game. I well remember the passing of this law. The bill was introduced by Cornelius J. Boggert, Esq., a member of the Assembly from the city of New York. It was in the month of February, 1791.

"The statute declares among other things, that the person who shall kill any Heath-hen within the counties of Suffolk or Queens, between the first day of April and the fifth day of October, shall for every such offence, forfeit and pay the sum of two dollars and a half, to be recovered with costs of suit, by any person who shall prosecute for the same, before any justice of the peace, in either of the said counties; the one half to be paid to the plaintiff, and the other half to the overseers of the poor. And if any Heath-hen so killed, shall be found in the possession of any person, he shall be deemed guilty of the offence, and suffer the penalty. But it is provided, that no defendant shall be convicted unless the action shall be brought within three months after the violation of the law.*

"The country selected by these exquisite birds requires a more particular description. You already understand it to be the midland and interior district of the island. The soil of this island is, generally speaking, a sandy or gravelly loam. In the parts less adapted to tillage, it is more of an unmixed sand. This is so much the case, that the shore of the beaches beaten by the ocean, affords a material from which glass has been prepared. Siliceous grains and particles predominate in the region chosen by the Heath-hens or Grouse. Here there are no rocks, and very few stones of any kind. This sandy tract appears to be a dereliction of the ocean, but is nevertheless not doomed to total sterility. Many thousand acres have been reclaimed from the wild state, and rendered very productive to man. And within the towns frequented by these birds, there are numerous inhabitants, and among them some of our most wealthy farmers.

"But within the same limits, there are also tracts of great extent where men have no settlements, and others where the population is spare

* The doctor has probably forgotten a circumstance of rather a ludicrous kind that occurred at the passing of this law; and which was, not long ago, related to me by my friend Mr. Gardiner, of Gardiner's Island, Long Island. The bill was entitled "An Act for the preservation of Heath-hen and other Game." The honest chairman of the Assembly, no sportsman I suppose, read the title "An Act for the preservation of HEATHEN and other Game!" which seemed to astonish the north members, who could not see the propriety of preserving *Indians*, or any other Heathen.

and scanty. These are however, by no means, naked deserts. They are, on the contrary, covered with trees, shrubs and smaller plants. The trees are mostly pitch-pines of inferior size, and white oaks of a small growth. They are of a quality very fit for burning. Thousands of cords of both sorts of firewood are annually exported from these barrens. Vast quantities are occasionally destroyed by the fires which through carelessness or accident spread far and wide through the woods. The city of New York will probably for ages derive fuel from the grouse-grounds. The land after having been cleared, yields to the cultivator poor crops. Unless therefore he can help it by manure, the best disposition is to let it grow up to forest again. Experience has proved, that in a term of forty or fifty years, the new growth of timber will be fit for the axe. Hence it may be perceived, that the reproduction of trees, and the protection they afford to Heath-hens, would be perpetual; or in other words, not circumscribed by any calculable time; provided the persecutors of the latter would be quiet.

"Beneath these trees grow more dwarfish oaks, overspreading the surface, sometimes with here and there a shrub, and sometimes a thicket. These latter are from about two to ten feet in height. Where they are the principal product, they are called in common conversation *brush*, as the flats on which they grow are termed *Brushy plains*. Among this hardy shrubbery may frequently be seen the creeping vegetable named the partridgeberry covering the sand with its lasting verdure. In many spots the plant which produces hurtleberries, sprout up among the other natives of the soil. These are the more important, though I ought to inform you that the hills reaching from east to west, and forming the spine of the island, support kalmias, hickories, and many other species; that I have seen azalias and andromedas as I passed through the wilderness; and that where there is water, cranberries, alders, beeches, maples, and other lovers of moisture, take their stations.

"This region, situated thus between the more thickly inhabited strips or belts on the north and south sides of the island, is much travelled by wagons, and intersected accordingly by a great number of paths.

"As to the birds themselves, the information I possess scarcely amounts to an entire history. You, who know the difficulty of collecting facts, will be the most ready to excuse my deficiencies. The information I give you is such as I rely on. For the purpose of gathering the materials, I have repeatedly visited their haunts. I have likewise conversed with several men who were brought up at the precincts of the grouse-ground, who had been witnesses of their habits and manners, who were accustomed to shoot them for the market, and who have acted as guides to gentlemen who go there for sport.

"*Bulk.*—An adult Grouse when fat weighs as much as a barn door fowl of moderate size, or about three pounds avoirdupois. But the

eagerness of the sportsman is so great, that a large proportion of those they kill, are but a few months old, and have not attained their complete growth. Notwithstanding the protection of the law, it is very common to disregard it. The retired nature of the situation favors this. It is well understood that an arrangement can be made which will blind and silence informers, and that the gun is fired with impunity, for weeks before the time prescribed in the act. To prevent this unfair and unlawful practice, an association was formed a few years ago, under the title of the *Brush club*, with the express and avowed intention of enforcing the game-law. Little benefit, however, has resulted from its laudable exertions; and under a conviction that it was impossible to keep the poachers away, the society declined. At present the statute may be considered as operating very little toward their preservation. Grouse, especially full-grown ones, are becoming less frequent. Their numbers are gradually diminishing; and assailed as they are on all sides, almost without cessation, their scarcity may be viewed as foreboding their eventual extermination.

“*Price*.—Twenty years ago a brace of Grouse could be bought for a dollar. They now cost from three to five dollars. A handsome pair seldom sells in the New York market now-a-days for less than thirty shillings [three dollars seventy-five cents], nor for more than forty [five dollars]. These prices indicate indeed the depreciation of money, and the luxury of eating. They prove at the same time, that Grouse are become rare; and this fact is admitted by every man who seeks them, whether for pleasure or for profit.

“*Amours*.—The season for pairing is in March, and the breeding time is continued through April and May. Then the male Grouse distinguishes himself by a peculiar sound. When he utters it, the parts about the throat are sensibly inflated and swelled. It may be heard on a still morning for three or more miles; some say they have perceived it as far as five or six. This noise is a sort of ventriloquism. It does not strike the ear of a bystander with much force; but impresses him with the idea, though produced within a few rods of him, of a voice a mile or two distant. This note is highly characteristic. Though very peculiar, it is termed *tooting*, from its resemblance to the blowing of a conch or horn from a remote quarter. The female makes her nest on the ground, in recesses very rarely discovered by men. She usually lays from ten to twelve eggs. Their color is of a brownish, much resembling those of a Guinea-hen. When hatched, the brood is protected by her alone. Surrounded by her young, the mother bird exceedingly resembles a domestic hen and chickens. She frequently leads them to feed in the roads crossing the woods, on the remains of maize and oats contained in the dung dropped by the travelling horses. In that employment they are often surprised by the passengers. On such occasions

the dam utters a cry of alarm. The little ones immediately scamper to the brush; and while they are skulking into places of safety, their anxious parent beguiles the spectator by drooping and fluttering her wings, limping along the path, rolling over in the dirt, and other pretences of inability to walk or fly.

“*Food.*—A favorite article of their diet is the *heath-hen plum*; or partridgeberry before mentioned. They are fond of hurtleberries, and cranberries. Worms and insects of several kinds are occasionally found in their crops. But in the winter they subsist chiefly on acorns, and the buds of trees which have shed their leaves. In their stomachs have been sometimes observed the leaves of a plant supposed to be a winter green; and it is said, when they are much pinched, they betake themselves to the buds of the pine. In convenient places, they have been known to enter cleared fields, and regale themselves on the leaves of clover; and old gunners have reported that they have been known to trespass upon patches of buckwheat, and pick up the grains.

“*Migration.*—They are stationary, and never known to quit their abode. There are no facts showing in them any disposition to migration. On frosty mornings and during snows, they perch on the upper branches of pine-trees. They avoid wet and swampy places; and are remarkably attached to dry ground. The low and open brush is preferred to high shrubbery and thickets. Into these latter places, they fly for refuge when closely pressed by the hunters, and here, under a stiff and impenetrable cover, they escape the pursuit of dogs and men. Water is so seldom met with on the true grouse-ground, that it is necessary to carry it along for the pointers to drink. The flights of Grouse are short, but sudden, rapid and whirring. I have not heard of any success in taming them. They seem to resist all attempts at domestication. In this as well as in many other respects, they resemble the Quail of New York, or the Partridge of Pennsylvania.

“*Manners.*—During the period of mating, and while the females are occupied in incubation, the males have a practice of assembling, principally by themselves. To some select and central spot where there is very little underwood, they repair from the adjoining district. From the exercises performed there, this is called a *scratching-place*. The time of meeting is the break of day. As soon as the light appears, the company assembles from every side, sometimes to the number of forty or fifty. When the dawn is past, the ceremony begins by a low tooting from one of the cocks. This is answered by another. They then come forth one by one from the bushes, and strut about with all the pride and ostentation they can display. Their necks are incurvated; the feathers on them are erected into a sort of ruff; the plumes of their tails are expanded like fans; they strut about in a style resembling, as nearly as small may be illustrated by great, the pomp of the turkey

cock. They seem to vie with each other in stateliness; and as they pass each other frequently cast looks of insult, and utter notes of defiance. These are the signals for battles. They engage with wonderful spirit and fierceness. During these contests, they leap a foot or two from the ground, and utter a cackling, screaming and discordant cry.

"They have been found in these places of resort even earlier than the appearance of light in the east. This fact has led to the belief that a part of them assemble over night. The rest join them in the morning. This leads to the further belief that they roost on the ground. And the opinion is confirmed by the discovery of little rings of dung, apparently deposited by a flock which had passed the night together. After the appearance of the sun they disperse.

"These places of exhibition have been often discovered by the hunters; and a fatal discovery it has been for the poor Grouse. Their destroyers construct for themselves lurking holes made of pine branches, called *bough houses*, within a few yards of the parade. Hither they repair with their fowling-pieces in the latter part of the night, and wait the appearance of the birds. Watching the moment when two are proudly eyeing each other, or engaged in battle; or when a greater number can be seen in a range, they pour on them a destructive charge of shot. This annoyance has been given in so many places, and to such extent, that the Grouse, after having been repeatedly disturbed, are afraid to assemble. On approaching the spot to which their instinct prompts them, they perch on the neighboring trees, instead of alighting at the scratching place. And it remains to be observed, how far the restless and tormenting spirit of the marksmen, may alter the native habits of the Grouse, and oblige them to betake themselves to new ways of life.

"They commonly keep together in coveys, or *packs*, as the phrase is, until the pairing season. A full pack consists of course of ten or a dozen. Two packs have been known to associate. I lately heard of one whose number amounted to twenty-two. They are so unapt to be startled, that a hunter, assisted by a dog, has been able to shoot almost a whole pack, without making any of them take wing. In like manner the men lying in concealment near the scratching places, have been known to discharge several guns before either the report of the explosion, or the sight of their wounded and dead fellows, would rouse them to flight. It has further been remarked, that when a company of sportsmen have surrounded a pack of Grouse, the birds seldom or never rise upon their pinions while they are encircled; but each runs along until it passes the person that is nearest, and then flutters off with the utmost expedition.

"As you have made no inquiry of me concerning the ornithological character of these birds, I have not mentioned it, presuming that you

are already perfectly acquainted with their classification and description. In a short memoir written in 1803, and printed in the eighth volume of the Medical Repository, I ventured an opinion as to the genus and species. Whether I was correct is a technical matter, which I leave you to adjust. I am well aware that European accounts of our productions are often erroneous, and require revision and amendment. This you must perform. For me it remains to repeat my joy at the opportunity your invitation has afforded me to contribute somewhat to your elegant work, and at the same time to assure you of my earnest hope that you may be favored with ample means to complete it.

“SAMUEL L. MITCHILL.”

Duly sensible of the honor of the foregoing communication, and grateful for the good wishes with which it is concluded, I shall now, in further elucidation of the subject, subjoin a few particulars properly belonging to my own department.

It is somewhat extraordinary that the European naturalists, in their various accounts of our different species of Grouse, should have said little or nothing of the one now before us, which in its voice, manners, and peculiarity of plumage, is the most singular, and in its flesh the most excellent, of all those of its tribe that inherit the territory of the United States. It seems to have escaped Catesby during his residence and different tours through this country, and it was not till more than twenty years after his return to England, viz. in 1743, that he first saw some of these birds, as he informs us, at Cheswick, the seat of the Earl of Wilmington. His lordship said they came from America; but from what particular part could not tell.* Buffon has confounded it with the Ruffed Grouse, the common Partridge of New England, or Pheasant of Pennsylvania (*Tetrao umbellus*); Edwards and Pennant have, however, discovered that it is a different species; but have said little of its note, of its flesh, or peculiarities; for, alas! there was neither voice nor action, nor delicacy of flavor in the shrunk and decayed skin from which the former took his figure, and the latter his description; and to this circumstance must be attributed the barrenness and defects of both.

That the curious may have an opportunity of examining to more advantage this singular bird, a figure of the male is here given as large as life, drawn with great care from the most perfect of several elegant specimens shot in the Barrens of Kentucky. He is represented in the act of *strutting*, as it is called, while with inflated throat he produces that extraordinary sound so familiar to every one who resides in his vicinity, and which has been described in the foregoing account. So

* CATESB. Car. p. 101, App.

very novel and characteristic did the action of these birds appear to me at first sight, that, instead of shooting them down, I sketched their attitude hastily on the spot; while concealed among a brush-heap, with seven or eight of them within a short distance. Three of these I afterwards carried home with me.

This rare bird, though an inhabitant of different and very distant districts of North America, is extremely particular in selecting his place of residence; pitching only upon those tracts whose features and productions correspond with his modes of life; and avoiding immense intermediate regions that he never visits. Open dry plains, thinly interspersed with trees, or partially overgrown with shrub-oak, are his favorite haunts. Accordingly we find these birds on the Grouse plains of New Jersey, in Burlington county, as well as on the brushy plains of Long Island—among the pines and shrub-oaks of Pocono, in Northampton county, Pennsylvania—over the whole extent of the Barrens of Kentucky—on the luxuriant plains and prairies of the Indiana territory, and Upper Louisiana; and according to the information of the late Governor Lewis, on the vast and remote plains of the Columbia river. In all these places preserving the same singular habits.

Their predilection for such situations will be best accounted for by considering the following facts and circumstances. First, their mode of flight is generally direct, and laborious, and ill calculated for the labyrinth of a high and thick forest, crowded and intersected with trunks and arms of trees, that require continual angular evolution of wing, or sudden turnings, to which they are by no means accustomed. I have always observed them to avoid the high-timbered groves that occur here and there in the Barrens. Connected with this fact is a circumstance related to me by a very respectable inhabitant of that country, viz.: that one forenoon a cock Grouse struck the stone chimney of his house with such force as instantly to fall dead to the ground.

Secondly, their known dislike of ponds, marshes, or watery places, which they avoid on all occasions, drinking but seldom, and, it is believed, never from such places. Even in confinement this peculiarity has been taken notice of. While I was in the state of Tennessee, a person living within a few miles of Nashville had caught an old hen Grouse in a trap; and being obliged to keep her in a large cage, as she struck and abused the rest of the poultry, he remarked that she never drank; and that she even avoided that quarter of the cage where the cup containing the water was placed. Happening one day to let some water fall on the cage, it trickled down in drops along the bars, which the bird no sooner observed, than she eagerly picked them off, drop by drop, with a dexterity that showed she had been habituated to this mode of quenching her thirst; and probably to this mode only, in those dry and barren tracts, where, except the drops of dew, and drops of

rain, water is very rarely to be met with. For the space of a week he watched her closely to discover whether she still refused to drink; but, though she was constantly fed on Indian corn, the cup and water still remained untouched and untasted. Yet no sooner did he again sprinkle water on the bars of the cage, than she eagerly and rapidly picked them off as before.

The last, and probably the strongest inducement to their preferring these plains, is the small acorn of the shrub-oak; the strawberries, huckleberries, and partridgeberries with which they abound, and which constitute the principal part of the food of these birds. These brushy thickets also afford them excellent shelter, being almost impenetrable to dogs or birds of prey.

In all these places where they inhabit they are, in the strictest sense of the word, resident; having their particular haunts, and places of rendezvous (as described in the preceding account), to which they are strongly attached. Yet they have been known to abandon an entire tract of such country, when, from whatever cause it might proceed, it became again covered with forest. A few miles south of the town of York, in Pennsylvania, commences an extent of country, formerly of the character described, now chiefly covered with wood; but still retaining the name of *Barrens*. In the recollection of an old man born in that part of the country, this tract abounded with Grouse.

The timber growing up, in progress of years, these birds totally disappeared; and for a long period of time he had seen none of them; until migrating with his family to Kentucky, on entering the Barrens he one morning recognised the well known music of his old acquaintance the Grouse; which he assures me are the very same with those he had known in Pennsylvania.

But what appears to me the most remarkable circumstance relative to this bird is, that not one of all those writers who have attempted its history has taken the least notice of those two extraordinary bags of yellow skin which mark the neck of the male, and which constitute so striking a peculiarity. These appear to be formed by an expansion of the gullet as well as of the exterior skin of the neck, which, when the bird is at rest, hangs in loose pendulous wrinkled folds, along the side of the neck, the supplemental wings, at the same time, as well as when the bird is flying, lying along the neck in the manner represented in one of the distant figures in the plate. But when these bags are inflated with air, in breeding time, they are equal in size and very much resemble in color, a middle sized fully ripe orange. By means of this curious apparatus, which is very observable several hundred yards off, he is enabled to produce the extraordinary sound mentioned above, which, though it may easily be imitated, is yet difficult to describe by words. It consists of three notes, of the same tone, resembling those

produced by the Night Hawks in their rapid descent; each strongly accented, the last being twice as long as the others. When several are thus engaged, the ear is unable to distinguish the regularity of these triple notes, there being at such times one continued bumming, which is disagreeable and perplexing, from the impossibility of ascertaining from what distance or even quarter it proceeds. While uttering this the bird exhibits all the ostentatious gesticulations of a turkey-cock; erecting and fluttering his neck wings, wheeling and passing before the female, and close before his fellows, as in defiance. Now and then are heard some rapid cackling notes, not unlike that of a person tickled to excessive laughter; and in short one can scarcely listen to them without feeling disposed to laugh from sympathy. These are uttered by the males while engaged in fight, on which occasion they leap up against each other, exactly in the manner of turkeys, seemingly with more malice than effect. This bumming continues from a little before day-break to eight or nine o'clock in the morning, when the parties separate to seek for food.

Fresh ploughed fields, in the vicinity of their resorts, are sure to be visited by these birds every morning, and frequently also in the evening. On one of these I counted, at one time, seventeen males, most of whom were in the attitude represented in the plate; making such a continued sound as I am persuaded might have been heard for more than a mile off. The people of the Barrens informed me, that when the weather became severe, with snow, they approach the barn and farm-house; are sometimes seen sitting on the fences in dozens; mix with the poultry, and glean up the scattered grains of Indian corn; seeming almost half domesticated. At such times great numbers are taken in traps. No pains, however, or regular plan has ever been persisted in, as far as I was informed, to domesticate these delicious birds. A Mr. Reed, who lives between the Pilot Knobs and Bairdstown, told me, that a few years ago, one of his sons found a Grouse's nest, with fifteen eggs, which he brought home, and immediately placed below a hen then sitting; taking away her own. The nest of the Grouse was on the ground, under a tussock of long grass, formed with very little art and few materials; the eggs were brownish white, and about the size of a pullet's. In three or four days the whole were hatched. Instead of following the hen, they compelled her to run after *them*, distracting her with the extent and diversity of their wanderings; and it was a day or two before they seemed to understand her language, or consent to be guided by her. They were let out to the fields, where they paid little regard to their nurse; and in a few days, only three of them remained. These became extremely tame and familiar, were most expert fly catchers; but soon after they also disappeared.

The Pinnated Grouse is nineteen inches long, twenty-seven inches in

extent, and when in good order, weighs about three pounds and a half; the neck is furnished with supplemental wings, each composed of eighteen feathers, five of which are black, and about three inches long, the rest shorter, also black, streaked laterally with brown, and of unequal lengths; the head is slightly crested; over the eye is an elegant semicircular comb of rich orange, which the bird has the power of raising or relaxing; under the neck wings are two loose pendulous and wrinkled skins, extending along the side of the neck for two-thirds of its length, each of which, when inflated with air, resembles, in bulk, color and surface, a middle sized orange; chin cream-colored; under the eye runs a dark streak of brown; whole upper parts mottled transversely with black, reddish brown and white; tail short, very much rounded, and of a plain brownish soot color; throat elegantly marked with touches of reddish brown, white and black; lower part of the breast and belly pale brown, marked transversely with white; legs covered to the toes with hairy down, of a dirty drab color; feet dull yellow, toes pectinated; vent whitish; bill brownish horn color; eye reddish hazel. The female is considerably less, of a lighter color; destitute of the neck wings, the naked yellow skin on the neck, and the semicircular comb of yellow over the eye.

On dissecting these birds the gizzard was found extremely muscular, having almost the hardness of a stone; the heart remarkably large; the crop was filled with briar knots, containing the larvæ of some insect,—quantities of a species of green lichen, small hard seeds, and some grains of Indian corn.

GENUS LVII. PERDIX.

SPECIES *P. VIRGINIANUS*.

QUAIL, OR PARTRIDGE.

[Plate XLVII. Fig. 2.]

Arct. Zool. 318, No. 185.—CATESB. *App.* p. 12.—*Virginian Quail*, TURT. *Syst.* p. 460.—*Maryland Q.* Ibid.—*Le Perdrix d'Amérique*, BRISS. I., 231.—BUFF. II., 447.*

THIS well known bird is a general inhabitant of North America, from the northern parts of Canada and Nova Scotia, in which latter place it is said to be migratory, to the extremity of the peninsula of

* *Tetrao Virginianus*, LINN. *Syst.* ed. 10, p. 161. *T. Marilandicus*, id. ib.—*Perdix Virginiana*, LATH. *Ind. Orn.* p. 650. *P. Marilanda*, id. p. 651.—*Caille de la Louisiane*, BUFF. *Pl. Enl.* 149.

Florida; and was seen in the neighborhood of the Great Osage village, in the interior of Louisiana. They are numerous in Kentucky and Ohio; Mr. Pennant remarks that they have been lately introduced into the island of Jamaica, where they appear to thrive greatly, breeding in that warm climate twice in the year. Captain Henderson mentions them as being plenty near the Balize, at the Bay of Honduras. They rarely frequent the forest, and are most numerous in the vicinity of well cultivated plantations, where grain is in plenty. They, however, occasionally seek shelter in the woods, perching on the branches, or secreting among the brush wood; but are found most usually in open fields, or along fences sheltered by thickets of briars. Where they are not too much persecuted by the sportsmen, they become almost half domesticated; approach the barn, particularly in winter, and sometimes in that severe season mix with the poultry, to glean up a subsistence. They remain with us the whole year, and often suffer extremely by long hard winters, and deep snows. At such times the arts of man combine with the inclemency of the season for their destruction. To the ravages of the gun are added others of a more insidious kind. Traps are placed on almost every plantation, in such places as they are known to frequent. These are formed of lath, or thinly split sticks, somewhat in the shape of an obtuse cone, laced together with cord, having a small hole at top, with a sliding lid, to take out the game by. This is supported by the common *figure 4* trigger, and grain is scattered below, and leading to the place. By this contrivance ten or fifteen have sometimes been taken at a time. These are sometimes brought alive to market, and occasionally bought up by sportsmen, who, if the season be very severe, sometimes preserve and feed them till spring, when they are humanely turned out to their native fields again, to be put to death, at some future time, *secundem artem*. Between the months of August and March, great numbers of these birds are brought to the market of Philadelphia, where they are sold from twelve to eighteen cents apiece.

The Quail begins to build early in May. The nest is made on the ground, usually at the bottom of a thick tuft of grass that shelters and conceals it. The materials are leaves and fine dry grass, in considerable quantity. It is well covered above, and an opening left on one side for entrance. The female lays from fifteen to twenty-four eggs, of a pure white without any spots. The time of incubation has been stated to me by various persons at four weeks, when the eggs were placed under the domestic hen. The young leave the nest as soon as they are freed from the shell, and are conducted about in search of food by the female; are guided by her voice, which at that time resembles the twittering of young chickens, and sheltered by her wings, in the same manner as those of the domestic fowl; but with all that secrecy and precaution for their safety, which their helplessness and greater

danger require. In this situation should the little timid family be unexpectedly surprised, the utmost alarm and consternation instantly prevail. The mother throws herself in the path, fluttering along, and beating the ground with her wings, as if sorely wounded, using every artifice she is mistress of, to entice the passenger in pursuit of herself, uttering at the same time certain peculiar notes of alarm, well understood by the young, who dive separately amongst the grass, and secrete themselves till the danger is over; and the parent, having decoyed the pursuer to a safe distance, returns, by a circuitous route, to collect and lead them off. This well known manœuvre, which nine times in ten is successful, is honorable to the feelings and judgment of the bird, but a severe satire on man. The affectionate mother, as if sensible of the avaricious cruelty of his nature, tempts him with a larger prize, to save her more helpless offspring; and pays him, as avarice and cruelty ought always to be paid, with mortification and disappointment.

The eggs of the Quail have been frequently placed under the domestic hen, and hatched and reared with equal success as her own; though, generally speaking, the young Partridges being more restless and vagrant, often lose themselves, and disappear. The hen ought to be a particularly good nurse, not at all disposed to ramble, in which case they are very easily raised. Those that survive, acquire all the familiarity of common chickens; and there is little doubt that if proper measures were taken, and persevered in for a few years, that they might be completely domesticated. They have been often kept during the first season, and through the whole of the winter, but have uniformly deserted in the spring. Two young Partridges that were brought up by a hen, when abandoned by her, associated with the cows, which they regularly followed to the fields, returned with them when they came home in the evening, stood by them while they were milked, and again accompanied them to the pasture. These remained during the winter, lodging in the stable, but as soon as spring came they disappeared. Of this fact I was informed by a very respectable lady, by whom they were particularly observed.

It has been frequently asserted to me, that the Quails lay occasionally in each other's nests. Though I have never myself seen a case of this kind, I do not think it altogether improbable, from the fact, that they have often been known to drop their eggs in the nest of the common hen, when that happened to be in the fields, or at a small distance from the house. The two Partridges above mentioned were raised in this manner; and it was particularly remarked by the lady, who gave me the information, that the hen sat for several days after her own eggs were hatched, until the young Quails made their appearance.

The Partridge, on her part, has sometimes been employed to hatch the eggs of the common domestic hen. A friend of mine, who himself

made the experiment, informs me, that of several hen's eggs which he substituted in place of those of the Partridge, she brought out the whole; and that for several weeks he occasionally surprised her in various parts of the plantation, with her brood of *chickens*; on which occasions she exhibited all that distressful alarm, and practised her usual manœuvres for their preservation. Even after they were considerably grown, and larger than the Partridge herself, she continued to lead them about; but though their notes, or call, were those of common chickens, their manners had all the shyness, timidity and alarm of young Partridges; running with great rapidity, and squatting in the grass exactly in the manner of the Partridge. Soon after this they disappeared, having probably been destroyed by dogs, by the gun, or by birds of prey. Whether the domestic fowl might not by this method be very soon brought back to its original savage state, and thereby supply another additional subject for the amusement of the sportsman, will scarcely admit of a doubt. But the experiment, in order to secure its success, would require to be made in a quarter of the country less exposed than ours to the ravages of guns, traps, dogs, and the deep snows of winter, that the new tribe might have full time to become completely naturalized, and well fixed in all their native habits.

About the beginning of September, the Quails being now nearly full grown, and associated in flocks, or coveys, of from four or five to thirty, afford considerable sport to the gunner. At this time the notes of the male are most frequent, clear and loud. His common call consists of two notes, with sometimes an introductory one, and is similar to the sound produced by pronouncing the words "Bob White." This call may be easily imitated by whistling, so as to deceive the bird itself, and bring it near. While uttering this he is usually perched on a rail of the fence, or on a low limb of an apple-tree, where he will sometimes sit, repeating at short intervals "Bob White," for half an hour at a time. When a covey are assembled in a thicket or corner of a field, and about to take wing, they make a low twittering sound, not unlike that of young chickens; and when the covey is dispersed, they are called together again by a loud and frequently repeated note, peculiarly expressive of tenderness and anxiety.

The food of the Partridge consists of grain, seeds, insects, and berries of various kinds. Buckwheat and Indian corn are particular favorites. In September and October the buckwheat fields afford them an abundant supply, as well as a secure shelter. They usually roost at night in the middle of a field on high ground; and from the circumstance of their dung being often found in such places, in one round heap, it is generally conjectured that they roost in a circle, with their heads outwards, each individual in this position forming a kind of guard to prevent

surprise. They also continue to lodge for several nights in the same spot.

The Partridge, like all the rest of the gallinaceous order, flies with a loud whirring sound, occasioned by the shortness, concavity, and rapid motion of its wings, and the comparative weight of its body. The steadiness of its horizontal flight, however, renders it no difficult mark to the sportsman, particularly when assisted by his sagacious pointer. The flesh of this bird is peculiarly white, tender and delicate, unequalled, in these qualities, by that of any other of its genus in the United States.

The Quail, as it is called in New England, or the *Partridge*, as in Pennsylvania, is nine inches long, and fourteen inches in extent; the bill is black; line over the eye, down the neck, and whole chin, pure white, bounded by a band of black, which descends and spreads broadly over the throat; the eye is dark hazel; crown, neck, and upper part of the breast, red brown; sides of the neck spotted with white and black, on a reddish brown ground; back, scapulars and lesser coverts, red brown, intermixed with ash, and sprinkled with black; tertials edged with yellowish white; wings plain dusky; lower part of the breast and belly pale yellowish white; beautifully marked with numerous curving spots or arrow heads of black; tail ash, sprinkled with reddish brown; legs very pale ash.

The female differs in having the chin and sides of the head yellowish brown, in which dress it has been described as a different kind. There is, however, only one species of Quail at present known within the United States.

INTRODUCTION

TO

THE WATER BIRDS.

WE now enter upon the second grand division of our subject, WATER BIRDS; and on that particular class, or order, usually denominated *Grallæ*, or Waders. Here a new assemblage of scenery, altogether different from the former, presents itself for our contemplation. Instead of rambling through the leafy labyrinths of umbrageous groves, fragrance-breathing orchards, fields and forests, we must now descend into the watery morass, and mosquito-swamp; traverse the windings of the river, the rocky cliffs, bays and inlets of the sea-beat shore, listening to the wild and melancholy screams of a far different multitude; a multitude less intimate indeed with man, though not less useful; as they contribute liberally to his amusement, to the abundance of his table, the warmth of his bed, and the comforts of his repose.

In contemplating the various, singular and striking peculiarities of these, we shall everywhere find traces of an infinitely wise and beneficent Creator. In every deviation of their parts from the common conformation of such as are designed for the land alone, we may discover a wisdom of design never erring, never failing in the means it provides for the accomplishment of its purpose. Instead therefore of imitating the wild presumption, or rather profanity, of those who have censured as rude, defective or deformed, whatever, in those and other organized beings, accorded not with their narrow conceptions; let it be ours to search with humility into the *intention* of those particular conformations; and thus, entering as it were into the designs of the Deity, we shall see in every part of the work of his hands abundant cause to exclaim with the enraptured poet of nature,

“O Wisdom infinite! Goodness immense!
And Love that passeth knowledge!”

In the present volume, the greater part of such of the Waders as belong to the territories of the United States, will be found delineated

and described. This class naturally forms an intermediate link between the Land Birds and the Web-footed, partaking, in their form, food and habits, of the characters of both; and equally deserving of our regard and admiration. Though formed for traversing watery situations, often in company with the Swimmers, they differ from these last in one circumstance common to Land Birds, the separation of the toes nearly to their origin; and in the habit of seldom venturing beyond their depth. On the other hand, they are furnished with legs of extraordinary length, bare for a considerable space above the knees, by the assistance of which they are enabled to walk about in the water in pursuit of their prey, where the others are obliged to swim; and also with necks of corresponding length, by means of which they can search the bottom for food, where the others must have recourse to diving. The bills of one family (the Herons) are strong, sharp pointed, and of considerable length; while the flexibility of the neck, the rapidity of its action, and remarkable acuteness of sight, wonderfully fit them for watching, striking, and securing their prey. Those whose food consists of more feeble and sluggish insects, that lie concealed deeper in the mud, are provided with bills of still greater extension, the rounded extremity of which possesses such nice sensibility, as to enable its possessor to detect its prey the instant it comes in contact with it, though altogether beyond the reach of sight.

Other families of this same order, formed for traversing the sandy sea-beach in search of small shell-fish that lurk just below the surface, have the bills and legs necessarily shorter; but their necessities requiring them to be continually on the verge of the flowing or retreating wave, the activity of their motions forms a striking contrast with the patient habits of the Heron tribe, who sometimes stand fixed and motionless, for hours together, by the margin of the pool or stream, watching to surprise their scaly prey.

Some few again, whose favorite food lies at the soft oozy bottoms of shallow pools, have the bill so extremely slender and delicate, as to be altogether unfit for penetrating either the muddy shores, or sandy sea-beach; though excellently adapted for its own particular range, where lie the various kinds of food destined for their subsistence. Of this kind are the *Avosets* of the present volume, who not only wade with great activity in considerably deep water; but having the feet nearly half-webbed, combine in one the characters of both wader and swimmer.

It is thus, that by studying the living manners of the different tribes in their native retreats, we not only reconcile the singularity of some parts of their conformation with Divine wisdom; but are enabled to comprehend the reason of many others, which the pride of certain closet naturalists has arraigned as lame, defective and deformed.

One observation more may be added: the migrations of this class of

birds are more generally known and acknowledged than that of most others. Their comparatively large size and immense multitudes, render their regular periods of migration (so strenuously denied to some others) notorious along the whole extent of our sea-coast. Associating, feeding, and travelling together in such prodigious and noisy numbers, it would be no less difficult to conceal their arrival, passage and departure, than that of a vast army through a thickly peopled country. Constituting also, as many of them do, an article of food and interest to man, he naturally becomes more intimately acquainted with their habits and retreats, than with those feeble and minute kinds, which offer no such inducement, and perform their migrations with more silence in scattered parties, unheeded or overlooked. Hence many of the Waders can be traced from their summer abodes, the desolate regions of Greenland and Spitzbergen, to the fens and seashores of the West India Islands and South America, the usual places of their winter retreat, while those of the Purple Martin and common Swallow still remain, *in vulgar belief*, wrapped up in all the darkness of mystery.

PHILADELPHIA, March 1st, 1819.

DIV. II. AVES AQUATICÆ. WATER BIRDS.

ORDER VII. GRALLÆ. WADERS.

GENUS LXIV. PLATALEA. SPOONBILL.

SPECIES. *P. AJAJA*.

ROSEATE SPOONBILL.

[Plate LXIII. Fig. 1.]

Arct. Zool. No. 338.—LATH. *Syn.* III., p. 16, No. 2.—*La Spatule couleur de Rose*,
BRISS. *Orn.* v., p. 356, 2, pl. 30.—*Pl. Enl.* p. 116.—BUFF. VII., 456.

THIS stately and elegant bird inhabits the seashores of America, from Brazil to Georgia. It also appears to wander up the Mississippi sometimes in summer, the specimen from which the figure in the plate was drawn having been sent me from the neighborhood of Natchez, in excellent order; for which favor I am indebted to the family of my late benevolent and scientific friend, William Dunbar, Esq., of that territory.

This species, however, is rarely seen to the northward of the Alamaha river; and even along the Peninsula of Florida is a scarce bird. In Jamaica, several other of the West India Islands, Mexico, and Guiana, it is more common, but confines itself chiefly to the seashore, and the mouths of rivers. Captain Henderson says, it is frequently seen at Honduras. It wades about in quest of shell-fish, marine insects, small crabs and fish. In pursuit of these, it occasionally swims and dives.

There are few facts on record relative to this very singular bird. It is said that the young are of a blackish chestnut the first year; of the roseate color of the present the second year; and of a deep scarlet the third.*

Having never been so fortunate as to meet with them in their native wilds, I regret my present inability to throw any farther light on their history and manners. These, it is probable, may resemble, in many respects, those of the European species, the *White Spoonbill*, once so

* Latham.

common in Holland.* To atone for this deficiency, I have endeavored faithfully to delineate the figure of this American species, and may perhaps resume the subject, in some future part of the present work.

The Roseate Spoonbill, now before us, measured two feet six inches in length, and near four feet in extent; the bill was six inches and a half long, from the corner of the mouth, seven from its upper base, two inches over at its greatest width, and three-quarters of an inch where narrowest; of a black color for half its length, and covered with hard scaly protuberances, like the edges of oyster shells: these are of a whitish tint, stained with red; the nostrils are oblong, and placed in the centre of the upper mandible; from the lower end of each nostril there runs a deep groove along each side of the mandible, and about a quarter of an inch from its edge; whole crown and chin bare of plumage, and covered with a greenish skin: that below the under mandible dilatable, as in the genus *Pelicanus*; space round the eye orange; irides blood red; cheeks and hind head a bare black skin; neck long, covered with short white feathers, some of which, on the upper part of the neck, are tipped with crimson; breast white, the sides of which are tinged with a brown burnt-color; from the upper part of the breast proceeds a long tuft of fine hair-like plumage, of a pale rose color; back white, slightly tinged with brownish; wings a pale wild-rose color, the shafts lake; the shoulders of the wings are covered with long hairy plumage of a deep and splendid carmine; upper and lower tail coverts the same rich red; belly rosy; rump paler; tail equal at the end, consisting of twelve feathers, of a bright brownish orange, the shafts reddish; legs, and naked part of the thighs, dark dirty red; feet half webbed; toes very long, particularly the hind one. The upper part of the neck had the plumage partly worn away, as if occasioned by resting it on the back, in the manner of the Ibis. The skin on the crown is a little wrinkled; the inside of the wing a much richer red than the outer.

* The European species breeds on trees, by the seaside; lays three or four white eggs, powdered with a few pale red spots, and about the size of those of a hen; are very noisy during breeding time; feed on fish, muscles, &c., which, like the Bald Eagle, they frequently take from other birds, frightening them by clattering their bill; they are also said to eat grass, weeds, and roots of reeds: they are migratory; their flesh reported to savor of that of a goose; the young are reckoned good food.

GENUS LXIX. ARDEA. HERON.

SPECIES I. *A. MINOR.*

AMERICAN BITTERN.

[Plate LXV. Fig. 3.]

Le Butor de la Baye d'Hudson, BRISS. V., p. 449, 25.—BUFF. VII., p. 430.—EDW. 136, var. *A.*—LATH. *Syn.* III., p. 58.

THIS is a nocturnal species, common to all our sea and river marshes, though nowhere numerous; it rests all day among the reeds and rushes, and unless disturbed, flies and feeds only during the night. In some places it is called the Indian Hen, on the sea coast of New Jersey it is known by the name of *Dunkadoo*, a word probably imitative of its common note. They are also found in the interior, having myself killed one at the inlet of the Seneca Lake, in October. It utters at times a hollow guttural note among the reeds; but has nothing of that loud booming sound for which the European Bittern is so remarkable. This circumstance, with its great inferiority of size, and difference of marking, sufficiently prove them to be two distinct species, although hitherto the present has been classed as a mere *variety* of the European Bittern. These birds, we are informed, visit Severn river, at Hudson's Bay, about the beginning of June; make their nests in swamps, laying four cinereous-green eggs among the long grass. The young are said to be at first black.

These birds, when disturbed, rise with a hollow *kwa*, and are then easily shot down, as they fly heavily. Like other night birds their sight is most acute during the evening twilight; but their hearing is at all times exquisite.

The American Bittern is twenty-seven inches long, and three feet four inches in extent; from the point of the bill to the extremity of the toes it measures three feet; the bill is four inches long, the upper mandible black, the lower greenish yellow; lores and eyelids yellow; irides bright yellow; upper part of the head flat, and remarkably depressed; the plumage there is of a deep blackish brown, long behind and on the neck, the general color of which is a yellowish brown shaded with darker; this long plumage of the neck the bird can throw forward at will, when irritated, so as to give him a more formidable appearance;

throat whitish, streaked with deep brown; from the posterior and lower part of the auriculars a broad patch of deep black passes diagonally across the neck, a distinguished characteristic of this species; the back is deep brown barred and mottled with innumerable specks and streaks of brownish yellow; quills black, with a leaden gloss, and tipped with yellowish brown; legs and feet yellow, tinged with pale green; middle claw pectinated; belly light yellowish brown streaked with darker, vent plain, thighs sprinkled on the outside with grains of dark brown; male and female nearly alike, the latter somewhat less. According to Bewick, the tail of the European Bittern contains only ten feathers; the American species has invariably twelve. The intestines measured five feet six inches in length, and were very little thicker than a common knitting-needle; the stomach is usually filled with fish or frogs.

This bird when fat is considered by many to be excellent eating.

SPECIES II. *ARDEA CÆRULEA*.

BLUE CRANE, or HERON.

[Plate LXII. Fig. 3.]

Arct. Zool. No. 351.—CATESBY, I., 76.—*Le Crabier bleu*, BUFF. VII., 398.—SLOAN. *Jam.* II., 315.—LATH. *Syn.* III., p. 78, No. 45, p. 79, var. *A.*—*Ardea cærulescens*, TURT. *Syst.* p. 379.*

IN mentioning this species in his translation of the *Systema Naturæ*, Turton has introduced what he calls two *varieties*, one from New Zealand, the other from Brazil; both of which, if we may judge by their size and color, appear to be entirely different and distinct species; the first being green with yellow legs, the last nearly one half less than the present. By this loose mode of discrimination, the precision of science being altogether dispensed with, the whole tribe of Cranes, Herons, and Bitterns may be styled mere *varieties* of the genus *Ardea*. The same writer has still farther increased this confusion, by designating as a different species his *Bluish Heron* (*A. cærulescens*), which agrees almost exactly with the present. Some of these mistakes may probably have originated from the figure of this bird given by Catesby, which appears to have been drawn and colored, not from nature, but from the glimmering recollections of memory, and is extremely erroneous. These remarks are due to truth, and necessary to the elucidation of the history of his species, which seems to be but imperfectly known in Europe.

The Blue Heron is properly a native of the warmer climates of the

* *Heron bleuâtre de Cayenne*, BUFF. *Pl. Enl.* 349, adult.

United States, migrating thence, at the approach of winter, to the tropical regions; being found in Cayenne, Jamaica, and Mexico. Or the muddy shores of the Mississippi, from Baton Rouge downwards to New Orleans, these birds are frequently met with. In spring they extend their migrations as far north as New England, chiefly in the vicinity of the sea; becoming more rare as they advance to the north. On the seabeach of Cape May, I found a few of them breeding among the cedars, in company with the Snowy Heron, Night Heron, and Green Bittern. The figure and description of the present were taken from two of these, shot in the month of May, while in complete plumage. Their nests were composed of small sticks, built in the tops of the red cedars, and contained five eggs of a light blue color, and of somewhat a deeper tint than those of the Night Heron. Little or no difference could be perceived between the colors and markings of the male and female. This remark is applicable to almost the whole genus; though from the circumstance of many of the yearling birds differing in plumage, they have been mistaken for females.

The Blue Heron, though in the Northern States it is found chiefly in the neighborhood of the ocean, probably on account of the greater temperature of the climate, is yet particularly fond of fresh water bogs, on the edges of the salt marsh. These it often frequents, wading about in search of tadpoles, lizards, various larvæ of winged insects, and mud worms. It moves actively about in search of these, sometimes making a run at its prey; and is often seen in company with the Snowy Heron, figured in the same plate. Like this last, it is also very silent, intent and watchful.

The genus *Ardea* is the most numerous of all the wading tribes, there being no less than ninety-six different species enumerated by late writers. These are again subdivided into particular families, each distinguished by a certain peculiarity. The Cranes, by having the head bald; the Storks, with the orbits naked; and the Herons, with the middle claw pectinated. To this last belong the Bitterns. Several of these are nocturnal birds, feeding only as the evening twilight commences, and reposing either among the long grass and reeds, or on tall trees, in sequestered places, during the day. What is very remarkable, those night wanderers often associate, during the breeding season, with the others; building their nests on the branches of the same tree; and, though differing so little in external form, feeding on nearly the same food, living and lodging in the same place; yet preserve their race, language, and manners as perfectly distinct from those of their neighbors, as if each inhabited a separate quarter of the globe.

The Blue Heron is twenty-three inches in length, and three feet in extent; the bill is black, but from the nostril to the eye, in both mandibles, is of a rich light purplish blue; iris of the eye gray, pupil black.

surrounded by a narrow silvery ring; eyelid light blue; the whole head and greater part of the neck, is of a deep purplish brown; from the crested hind-head shoot three narrow pointed feathers, that reach nearly six inches beyond the eye; lower part of the neck, breast, belly and whole body, a deep slate color, with lighter reflections; the back is covered with long, flat, and narrow feathers, some of which are ten inches long, and extend four inches beyond the tail; the breast is also ornamented with a number of these long slender feathers; legs blackish green; inner side of the middle claw pectinated. The breast and sides of the rump, under the plumage, are clothed with a mass of yellowish white unelastic cottony down, similar to that in most of the tribe, the uses of which are not altogether understood. Male and female alike in color.

The young birds of the first year are destitute of the purple plumage on the head and neck.

SPECIES III. *ARDEA HERODIAS*.

GREAT HERON.

[Plate LXV. Fig. 2.]

Le Heron huppé de Virginie, BRISS. v., p. 416, 10.—*Le Grand Heron d'Amérique*, BUFF. VII., p. 385.—*Larger crested Heron*, CATESB. *App. pl.* 10, fig. 1.—LATH. *Syn.* III., p. 85.—*Arct. Zool.* No. 341.

THE history of this large and elegant bird having been long involved in error and obscurity,* I have taken more than common pains to present a faithful portrait of it in this place; and to add to that every fact and authentic particular relative to its manners which may be necessary to the elucidation of the subject.

The Great Heron is a constant inhabitant of the Atlantic coast from New York to Florida; in deep swamps and severe weather seeking the open springs of the cedar and cypress swamps, and the muddy inlets occasionally covered by the tides. On the higher inland parts of the country, beyond the mountains, they are less numerous; and

* Latham says of this species, that "all the upper parts of the body, the belly, tail and legs are *brown*;" and this description has been repeated by every subsequent compiler. Buffon, with his usual eloquent absurdity, describes the Heron as "exhibiting the picture of wretchedness, anxiety and indigence; condemned to struggle perpetually with misery and want; sickened with the restless cravings of a famished appetite;" a description so ridiculously untrue, that, were it possible for these birds to comprehend it, would excite the risibility of the whole tribe.

one which was shot in the upper parts of New Hampshire, was described to me as a great curiosity. Many of their breeding places occur in both Carolinas, chiefly in the vicinity of the sea. In the lower parts of New Jersey they have also their favorite places for building, and rearing their young. These are generally in the gloomy solitudes of the tallest cedar swamps, where, if unmolested, they continue annually to breed for many years. These swamps are from half a mile to a mile in breadth, and sometimes five or six in length, and appear as if they occupied the former channel of some choked up river, stream, lake, or arm of the sea. The appearance they present to a stranger is singular. A front of tall and perfectly straight trunks, rising to the height of fifty or sixty feet without a limb, and crowded in every direction, their tops so closely woven together as to shut out the day, spreading the gloom of perpetual twilight below. On a near approach they are found to rise out of the water, which from the impregnation of the fallen leaves and roots of the cedars, is of the color of brandy. Amidst this bottom of congregated springs, the ruins of the former forest lie piled in every state of confusion. The roots, prostrate logs, and in many places the water, are covered with green mantling moss, while an undergrowth of laurel, fifteen or twenty feet high, intersects every opening so completely, as to render a passage through laborious and harassing beyond description; at every step you either sink to the knees, clamber over fallen timber, squeeze yourself through between the stubborn laurels, or plunge to the middle in ponds made by the uprooting of large trees, and which the green moss concealed from observation. In calm weather the silence of death reigns in these dreary regions; a few interrupted rays of light shoot across the gloom; and unless for the occasional hollow screams of the Herons, and the melancholy chirping of one or two species of small birds, all is silence, solitude and desolation. When a breeze rises, at first it sighs mournfully through the tops; but as the gale increases, the tall mast-like cedars wave like fishing poles, and rubbing against each other, produce a variety of singular noises, that, with the help of a little imagination, resemble shrieks, groans, growling of bears, wolves and such like comfortable music.

On the tops of the tallest of these cedars the Herons construct their nests, ten or fifteen pair sometimes occupying a particular part of the swamp. The nests are large, formed of sticks, and lined with smaller twigs; each occupies the top of a single tree. The eggs are generally four, of an oblong pointed form, larger than those of a hen, and of a light greenish blue without any spots. The young are produced about the middle of May, and remain on the trees until they are full as heavy as the old ones, being extremely fat, before they are able to fly. They breed but once in the season. If disturbed in their breeding place,

the old birds fly occasionally over the spot, sometimes honking like a Goose, sometimes uttering a coarse hollow grunting noise like that of a hog, but much louder.

The Great Heron is said to be fat at the full moon, and lean at its decrease; this might be accounted for by the fact of their fishing regularly by moonlight through the greater part of the night, as well as during the day; but the observation is not universal, for at such times I have found some lean as well as others fat. The young are said to be excellent for the table, and even the old birds, when in good order, and properly cooked, are esteemed by many.

The principal food of the Great Heron is fish, for which he watches with the most unwearied patience, and seizes them with surprising dexterity. At the edge of the river, pond or seashore he stands fixed and motionless, sometimes for hours together. But his stroke is quick as thought, and sure as fate to the first luckless fish that approaches within his reach; these he sometimes beats to death, and always swallows head foremost, such being their uniform position in the stomach. He is also an excellent mouser, and of great service to our meadows in destroying the short-tailed or meadow mouse, so injurious to the banks. He also feeds eagerly on grasshoppers, various winged insects, particularly dragon flies, which he is very expert at striking, and also eats the seeds of that species of *nymphae* usually called splatter docks, so abundant along our fresh water ponds and rivers.

The Heron has great powers of wing, flying sometimes very high, and to a great distance; his neck doubled, his head drawn in, and his long legs stretched out in a right line behind him, appearing like a tail, and probably serving the same rudder-like office. When he leaves the seacoast, and traces on wing the courses of the creeks or rivers upwards, he is said to prognosticate rain; when downwards, dry weather. He is most jealously vigilant and watchful of man, so that those who wish to succeed in shooting the Heron, must approach him entirely unseen, and by stratagem. The same inducements, however, for his destruction do not prevail here as in Europe. Our seashores and rivers are free to all for the amusement of fishing. Luxury has not yet constructed her thousands of fish ponds, and surrounded them with steel traps, spring guns, and Heron snares.* In our vast fens,

* "The Heron," says an English writer, "is a very great devourer of fish, and does more mischief in a pond than an otter. People who have kept Herons have had the curiosity to number the fish they feed them with, into a tub of water, and counting them again afterwards, it has been found that they will eat up fifty moderate dace and roaches in a day. It has been found that in carp ponds visited by this bird, one Heron will eat up a thousand store carp in a year; and will hunt them so close as to let very few escape. The readiest method of destroying this mischievous bird is by fishing for him in the manner of pike, with a baited hook.

meadows and sea marshes, this stately bird roams at pleasure, feasting on the never-failing magazines of frogs, fish, seeds and insects with which they abound, and of which he probably considers himself the sole lord and proprietor. I have several times seen the Bald Eagle attack and tease the Great Heron; but whether for sport, or to make him disgorge his fish, I am uncertain.

The common Heron of Europe (*Ardea major*) very much resembles the present, which might, as usual, have probably been ranked as the original stock, of which the present was a mere degenerated species, were it not that the American is greatly superior in size and weight to the European species, the former measuring four feet four inches, and weighing upwards of seven pounds; the latter three feet three inches, and rarely weighing more than four pounds. Yet with the exception of size, and the rust-colored thighs of the present, they are extremely alike. The common Heron of Europe, however, is not an inhabitant of the United States.

The Great Heron does not receive his full plumage during the first season, nor until the summer of the second. In the first season the young birds are entirely destitute of the white plumage of the crown, and the long pointed feathers of the back, shoulders, and breast. In this dress I have frequently shot them in autumn. But in the third year, both males and females have assumed their complete dress, and, contrary to all the European accounts which I have met with, both are then so nearly alike in color and markings, as scarcely to be distinguished from each other; both having the long flowing crest, and all the ornamental white pointed plumage of the back and breast. Indeed this sameness in the plumage of the males and females, when arrived at their perfect state, is a characteristic of the whole of the genus with which I am acquainted. Whether it be different with those of Europe, or that the young and imperfect birds have been hitherto mistaken for females I will not pretend to say, though I think the latter conjecture highly probable, as the Night Raven (*Ardea nycticorax*) has been known for several centuries, and yet in all their accounts the sameness of the colors and plumage of the male and female of that bird is nowhere men-

When the haunt of the Heron is found out, three or four small roach, or dace, are to be procured, and each of them is to be baited on a wire, with a strong hook at the end, entering the wire just at the gills, and letting it run just under the skin to the tail; the fish will live in this manner for five or six days, which is a very essential thing; for if it be dead, the Heron will not touch it. A strong line is then to be prepared of silk and wire twisted together, and is to be about two yards long; tie this to the wire that holds the hook, and to the other end of it there is to be tied a stone of about a pound weight; let three or four of these baits be sunk in different shallow parts of the pond, and in a night or two's time the Heron will not fail to be taken with one or other of them."

tioned; on the contrary, the young or yearling bird has been universally described as the female.

On the eighteenth of May I examined, both externally and by dissection, five specimens of the Great Heron, all in complete plumage, killed in a cedar swamp near the head of Tuckahoe river, in Cape May county, New Jersey. In this case the females could not be mistaken, as some of the eggs were nearly ready for exclusion.

Length of the Great Heron four feet four inches from the point of the bill to the end of the tail, and to the bottom of the feet five feet four inches; extent six feet; bill eight inches long, and one inch and a quarter in width, of a yellow color, in some blackish on the ridge, extremely sharp at the point, the edges also sharp, and slightly serrated near the extremity; space round the eye from the nostril, a light purplish blue; irides orange, brightening into yellow where they join the pupil; forehead and middle of the crown white, passing over the eye; sides of the crown and hind head deep slate or bluish black, and elegantly crested, the two long tapering black feathers being full eight inches in length; chin, cheeks, and sides of the head white for several inches; throat white, thickly streaked with double rows of black; rest of the neck brownish ash, from the lower part of which shoot a great number of long narrow pointed white feathers that spread over the breast and reach nearly to the thighs; under these long plumes the breast itself, and middle of the belly is of a deep blackish slate, the latter streaked with white; sides blue ash; vent white; thighs and ridges of the wings a dark purplish rust color; whole upper parts of the wings, tail, and body a fine light ash, the latter ornamented with a profusion of long narrow white tapering feathers, originating on the shoulders or upper part of the back, and falling gracefully over the wings; primaries very dark slate, nearly black; naked thighs brownish yellow; legs brownish black, tinged with yellow, and netted with seams of whitish; in some the legs are nearly black. Little difference could be perceived between the plumage of the males and females; the latter were rather less, and the long pointed plumes of the back were not quite so abundant.

The young birds of the first year have the whole upper part of the head of a dark slate; want the long plumes of the breast and back; and have the body, neck, and lesser coverts of the wings considerably tinged with ferruginous.

On dissection the gullet was found of great width, from the mouth to the stomach, which has not the two strong muscular coats that form the gizzard of some birds; it was more loose, of considerable and uniform thickness throughout, and capable of containing nearly a pint; it was entirely filled with fish, among which were some small eels, all placed head downwards; the intestines measured nine feet in length, were

scarcely as thick as a goose-quill, and incapable of being distended; so that the vulgar story of the Heron swallowing eels which passing suddenly through him are repeatedly swallowed, is absurd and impossible. On the external coat of the stomach of one of these birds, opened soon after being shot, something like a blood vessel lay in several meandering folds, enveloped in a membrane, and closely adhering to the surface. On carefully opening this membrane it was found to contain a large round living worm, eight inches in length; another of like length was found coiled in the same manner on another part of the external coat. It may also be worthy of notice, that the intestines of the young birds of the first season, killed in the month of October, when they were nearly as large as the others, measured only six feet four or five inches, those of the full grown ones from eight to nine feet in length.

SPECIES IV. *ARDEA EGRETTA*.*

GREAT WHITE HERON.

[Plate LXI. Fig. 4.]

THIS tall and elegant bird, though often seen, during the summer, in our low marshes and inundated meadows; yet, on account of its extreme vigilance, and watchful timidity, is very difficult to be procured. Its principal residence is in the regions of the south, being found from Guiana, and probably beyond the line, to New York. It enters the territories of the United States late in February; this I conjecture from having first met with it in the southern parts of Georgia about that time. The high inland parts of the country it rarely or never visits; its favorite haunts are vast inundated swamps, rice fields, the low marshy shores of rivers, and such like places; where, from its size and color, it is very conspicuous, even at a great distance.

The appearance of this bird, during the first season, when it is entirely destitute of the long flowing plumes of the back, is so different from the same bird in its perfect plumage, which it obtains in the third year, that naturalists and others very generally consider them as two distinct species. The opportunities which I have fortunately had, of observing them, with the train, in various stages of its progress, from its first appearance to its full growth, satisfies me that the Great White Heron with, and that without, the long plumes, are one and the same species, in different periods of age. In the museum of my friend Mr. Peale, there was a specimen of this bird, in which the train was wanting;

* *Ardea alba*, LINN. *Syst.* Ed. 10, p. 144.

but on a closer examination, its rudiments were plainly to be perceived, extending several inches beyond the common plumage.

The Great White Heron breeds in several of the extensive cedar swamps in the lower parts of New Jersey. Their nests are built on the trees, in societies; the structure and materials exactly similar to those of the Snowy Heron, but larger. The eggs are usually four, of a pale blue color. In the months of July and August, the young make their first appearance in the meadows and marshes, in parties of twenty or thirty together. The large ditches with which the extensive meadows below Philadelphia are intersected, are regularly, about that season, visited by flocks of those birds; these are frequently shot; but the old ones are too sagacious to be easily approached. Their food consists of frogs, lizards, small fish, insects, seeds of the splatter-dock (a species of *Nymphæa*), and small water snakes. They will also devour mice and moles, the remains of such having been at different times found in their stomachs.

The long plumes of these birds have at various periods been in great request, on the continent of Europe, particularly in France and Italy, for the purpose of ornamenting the female head-dress. When dyed of various colors, and tastefully fashioned, they form a light and elegant duster and mosquito brush. The Indians prize them for ornamenting their hair, or topknot; and I have occasionally observed these people wandering through the market place of New Orleans, with bunches of those feathers for sale.

The Great White Heron measures five feet from the extremities of the wings, and three feet six inches from the tip of the bill to the end of the tail; the train extends seven or eight inches farther. This train is composed of a great number of long, thick, tapering shafts, arising from the lower part of the shoulders, and thinly furnished on each side with fine flowing hair-like threads, of several inches in length, covering the lower part of the back, and falling gracefully over the tail, which it entirely conceals. The whole plumage is of a snowy whiteness, except the train, which is slightly tinged with yellow. The bill is nearly six inches in length, of a rich orange yellow, tipped with black; irides a paler orange, pupil small, giving the bird a sharp and piercing aspect; the legs are long, stout, and of a black color, as is the bare space of four inches above the knee; the span of the foot measures upwards of six inches; the inner edge of the middle claw is pectinated; the exterior and middle toes are united at the base for about half an inch, by a membrane.

The articulations of the vertebræ are remarkably long; the intestines measure upwards of eight feet, and are very narrow. The male and female are alike in plumage; both, when of full age, having the train equally long.

SPECIES V. *ARDEA VIRESCENS*.

GREEN HERON.

[Plate LXI. Fig. 1.]

Arct. Zool. No. 349.—CATESBY, I., 80.—*Le Crabier vert*, BUFF. VII., 404.—LATH
Syn. III., p. 68, No. 30.

THIS common and familiar species owes little to the liberality of public opinion, whose prejudices have stigmatized it with a very vulgar and indelicate nickname; and treat it on all occasions as worthless and contemptible. Yet few birds are more independent of man than this; for it fares best, and is always most numerous, where cultivation is least known or attended to; its favorite residence being the watery solitudes of swamps, pools and morasses, where millions of frogs and lizards "tune their nocturnal notes" in full chorus, undisturbed by the lords of creation.

The Green Bittern makes its first appearance in Pennsylvania early in April, soon after the marshes are completely thawed. There, among the stagnant ditches with which they are intersected, and amidst the bogs and quagmires, he hunts with great cunning and dexterity. Frogs and small fish are his principal game, whose caution, and facility of escape, require nice address, and rapidity of attack. When on the lookout for small fish, he stands in the water, by the side of the ditch, silent and motionless as a statue; his neck drawn in over his breast, ready for action. The instant a fry or minnow comes within the range of his bill, by a stroke quick and sure as that of the rattlesnake, he seizes his prey, and swallows it in an instant. He searches for small crabs, and for the various worms and larvæ, particularly those of the dragon-fly, which lurk in the mud, with equal adroitness. But the capturing of frogs requires much nicer management. These wary reptiles shrink into the mire on the least alarm, and do not raise up their heads again to the surface without the most cautious circumspection. The Bittern, fixing his penetrating eye on the spot where they disappeared, approaches with slow stealing step, laying his feet so gently and silently on the ground as not to be heard or felt; and when arrived within reach stands fixed, and bending forwards, until the first glimpse of the frog's head makes its appearance, when, with a stroke instantaneous as lightning, he seizes it in his bill, beats it to death, and feasts on it at his leisure.

This mode of life, requiring little fatigue where game is so plenty, as is generally the case in all our marshes, must be particularly pleasing to the bird; and also very interesting, from the continual exercise of cunning and ingenuity necessary to circumvent its prey. Some of the naturalists of Europe, however, in their superior wisdom, think very differently; and one can scarcely refrain from smiling at the absurdity of those writers, who declare, that the lives of this whole class of birds are rendered miserable by toil and hunger; their very appearance, according to Buffon, presenting the image of suffering anxiety and indigence.*

When alarmed, the Green Bittern rises with a hollow guttural scream; does not fly far, but usually alights on some old stump, tree or fence adjoining, and looks about with extended neck; though sometimes this is drawn in so that his head seems to rest on his breast. As he walks along the fence, or stands gazing at you with outstretched neck, he has the frequent habit of jetting the tail. He sometimes flies high, with doubled neck, and legs extended behind, flapping the wings smartly, and travelling with great expedition. He is the least shy of all our Herons; and perhaps the most numerous and generally dispersed: being found far in the interior, as well as along our salt marshes; and everywhere about the muddy shores of our mill-ponds, creeks and large rivers.

The Green Bittern begins to build about the twentieth of April; sometimes in single pairs in swampy woods; often in companies; and not unfrequently in a kind of association with the *Qua-birds*, or Night Herons. The nest is fixed among the branches of the trees; is constructed wholly of small sticks, lined with finer twigs, and is of considerable size, though loosely put together. The female lays four eggs, of the common oblong form, and of a pale light blue color. The young do not leave the nest until able to fly; and for the first season, at least, are destitute of the long pointed plumage on the back; the lower parts are also lighter, and the white on the throat broader. During the whole summer, and until late in autumn, these birds are seen in our meadows and marshes, but never remain during winter in any part of the United States.

The Green Bittern is eighteen inches long, and twenty-five inches in extent; bill black, lighter below, and yellow at the base; chin and narrow streak down the throat yellowish white; neck dark vinaceous red; back covered with very long tapering pointed feathers, of a hoary green, shafted with white, on a dark green ground; the hind part of the neck is destitute of plumage, that it may be the more conveniently drawn in over the breast, but is covered with the long feathers of the throat, and

* Hist. Nat. des Oiseaux, tome xxii., p. 343.

sides of the neck that enclose it behind; wings and tail dark glossy green, tipped and bordered with yellowish white; legs and feet yellow, tinged before with green, the skin of these thick and movable; belly ashy brown; irides bright orange; crested head very dark glossy green. The female, as I have particularly observed, in numerous instances, differs in nothing as to color from the male; neither of them receive the long feathers on the back during the first season.

There is one circumstance attending this bird, which, I recollect, at first surprised me. On shooting and wounding one, I carried it some distance by the legs, which were at first yellow, but on reaching home, I perceived, to my surprise, that they were red. On letting the bird remain some time undisturbed, they again became yellow, and I then discovered that the action of the hand had brought a flow of blood into them, and produced the change of color. I have remarked the same in those of the Night Heron.

SPECIES VI. *ARDEA EXILIS*.

LEAST BITTERN.

[Plate LXV. Fig. 4.]

LATH. *Syn.* III., p. 66, No. 28.

THIS is the smallest known species of the whole tribe. It is commonly found in fresh water meadows, and rarely visits the salt marshes. One shot near Great Egg Harbor was presented to me as a very uncommon bird. In the meadows of Schuylkill and Delaware below Philadelphia, a few of these birds breed every year, making their nests in the thick tussocks of grass, in swampy places. When alarmed they seldom fly far, but take shelter among the reeds or long grass. They are scarcely ever seen exposed, but skulk during the day; and, like the preceding species, feed chiefly in the night.

This little creature measures twelve inches in length, and sixteen in extent; the bill is more than two inches and a quarter long, yellow, ridged with black, and very sharp pointed; space round the eye pale yellow; irides bright yellow; whole upper part of the crested head, the back, scapulars and tail very deep slate reflecting slight tints of green; throat white, here and there tinged with buff; hind part of the neck dark chestnut bay, sides of the neck, cheeks, and line over the eye brown buff; lesser wing-coverts the same; greater wing-coverts chestnut, with a spot of the same at the bend of the wing, the primary coverts

are also tipped with the same; wing quills dark slate; breast white, tinged with ochre, under which lie a number of blackish feathers; belly and vent white; sides pale ochre; legs greenish on the shins, hind part and feet yellow; thighs feathered to within a quarter of an inch of the knees, middle claw pectinated; toes tinged with pale green; feet large, the span of the foot measuring two inches and three quarters. Male and female nearly alike in color. The young birds are brown on the crown and back. The stomach was filled with small fish; and the intestines, which were extremely slender, measured in length about four feet.

The Least Bittern is also found in Jamaica and several of the West India Islands.

SPECIES VII. *ARDEA LUDOVICIANA*.

LOUISIANA HERON.

[Plate LXIV. Fig. 1.]

THIS is a rare and delicately formed species; occasionally found on the swampy river shores of South Carolina, but more frequently along the borders of the Mississippi, particularly below New Orleans. In each of these places it is migratory; and in the latter, as I have been informed, builds its nest on trees, amidst the inundated woods. Its manners correspond very much with those of the Blue Heron. It is quick in all its motions, darting about after its prey with surprising agility. Small fish, frogs, lizards, tadpoles, and various aquatic insects, constitute its principal food.

There is a bird described by Latham in his General Synopsis, vol. iii., p. 88, called the *Demi Egret*,* which from the account there given, seems to approach near to the present species. It is said to inhabit Cayenne.

Length of the Louisiana Heron from the point of the bill to the extremity of the tail twenty-three inches; the long hair-like plumage of the rump and lower part of the back extends several inches farther; the bill is remarkably long, measuring full five inches, of a yellowish green at the base, black towards the point, and very sharp; irides yellow; chin and throat white, dotted with ferruginous and some blue; the rest of the neck is of a light vinous purple, intermixed on the lower part next the breast with dark slate-colored plumage; the whole feathers

* See also Buffon, vol. vii., p. 378.

of the neck are long, narrow and pointed; head crested, consisting first of a number of long narrow purple feathers, and under these seven or eight pendent ones, of a pure white, and twice the length of the former; upper part of the back and wings light slate; lower part of the back and rump white, but concealed by a mass of long unwebbed hair-like plumage, that falls over the tail and tips of the wings, extending three inches beyond them; these plumes are of a dirty purplish brown at the base, and lighten towards the extremities to a pale cream color; the tail is even at the tip, rather longer than the wings, and of a fine slate; the legs and naked thighs greenish yellow; middle claw pectinated; whole lower parts pure white. Male and female alike in plumage, both being crested.

SPECIES VIII. *ARDEA NYCTICORAX*.

NIGHT HERON, OR QUA-BIRD.

[Plate LXI. Fig. 2.]

Arct. Zool. No. 356.—*Le Bihoreau*, BUFF. VII., 435, 439, tab. 22. *Pl. Enl.* 758, 759, 899.—*LATH. Syn.* v. 3, p. 52, No. 13, p. 53, Young, called there the Female.

THIS species, though common to both continents, and known in Europe for many centuries, has been so erroneously described by all the European naturalists, whose works I have examined, as to require more than common notice in this place. For this purpose, an accurate figure of the male is given, and also another of what has, till now, been universally considered the female, with a detail of so much of their history as I am personally acquainted with.

The Night Heron arrives in Pennsylvania early in April, and immediately takes possession of his former breeding place, which is usually the most solitary, and deeply shaded part of a cedar swamp. Groves of swamp-oak, in retired and inundated places, are also sometimes chosen; and the males not unfrequently select tall woods, on the banks of the river, to roost in during the day. These last regularly direct their course, about the beginning of evening twilight, towards the marshes, uttering, in a hoarse and hollow tone, the sound *qua*, which by some has been compared to that produced by the retchings of a person attempting to vomit. At this hour, also, all the nurseries in the swamps are emptied of their inhabitants, who disperse about the marshes, and along the ditches and river shore, in quest of food. Some of these breeding places have been occupied every spring and summer, for time immemorial, by from eighty to one hundred pairs of Qua-birds. In

places where the cedars have been cut down for sale, the birds have merely removed to another quarter of the swamp; but when personally attacked, long teased and plundered, they have been known to remove from an ancient breeding place, in a body, no one knew where. Such was the case with one on the Delaware, near Thompson's Point, ten or twelve miles below Philadelphia; which having been repeatedly attacked and plundered by a body of Crows, after many severe rencontres, the Herons finally abandoned the place. Several of these breeding places occur among the red-cedars on the seabeach of Cape May, intermixed with those of the Little White Heron, Green Bittern, and Blue Heron. The nests are built entirely of sticks, in considerable quantities, with frequently three and four nests on the same tree. The eggs are generally four in number, measuring two inches and a quarter in length, by one and three-quarters in thickness, and of a very pale light blue color. The ground, or marsh, below is bespattered with their excrements, lying all around like whitewash, with feathers, broken egg-shells, old nests, and frequently small fish, which they have dropped by accident and neglected to pick up.

On entering the swamp, in the neighborhood of one of these breeding places, the noise of the old and the young would almost induce one to suppose that two or three hundred Indians were choking or throttling each other. The instant an intruder is discovered, the whole rise in the air in silence, and remove to the tops of the trees in another part of the woods; while parties of from eight to ten make occasional circuits over the spot, to see what is going on. When the young are able, they climb to the highest part of the trees; but, knowing their inability, do not attempt to fly. Though it is probable that these nocturnal birds do not see well during the day, yet their faculty of hearing must be exquisite, as it is almost impossible, with all the precautions one can use, to penetrate near their residence, without being discovered. Several species of Hawks hover around, making an occasional sweep among the young; and the Bald Eagle himself has been seen reconnoitring near the spot, probably with the same design.

Contrary to the generally received opinion, the males and females of these birds are so alike in color, as scarcely to be distinguished from each other; both have also the long slender plumes that flow from the head. These facts I have exhibited by dissection on several subjects, to different literary gentlemen of my acquaintance, particularly to my venerable friend, Mr. William Bartram, to whom I have also often shown the young, represented at fig. 3. One of these last, which was kept for some time in the botanic garden of that gentleman, by its voice instantly betrayed its origin, to the satisfaction of all who examined it. These young certainly receive their full colored plumage before the succeeding spring, as on their first arrival no birds are to be seen in the

dress of fig. 3, but soon after they have bred, these become more numerous than the others. Early in October they migrate to the south. According to Buffon, these birds also inhabit Cayenne; and are found widely dispersed over Europe, Asia, and America. The European species, however, is certainly much smaller than the American; though, in other respects, corresponding exactly to it. Among a great number which I examined with attention, the following description was carefully taken from a common sized full grown male.

Length of the Night Heron two feet four inches, extent four feet; bill black, four inches and a quarter long, from the corners of the mouth to the tip; lores, or space between the eye and bill, a bare bluish white skin; eyelids also large and bare, of a deep purple blue; eye three quarters of an inch in diameter, the iris of a brilliant blood red, pupil black; crested crown and hind-head deep dark blue, glossed with green; front and line over the eye white; from the hind-head proceed three very narrow white tapering feathers, between eight and nine inches in length; the vanes of these are concave below, the upper one enclosing the next, and that again the lower; though separated by the hand, if the plumage be again shook several times, these long flowing plumes gradually enclose each other, appearing as one; these the bird has the habit of erecting when angry or alarmed; the cheeks, neck, and whole lower parts, are white, tintured with yellowish cream, and under the wings with very pale ash; back and scapulars of the same deep dark blue, glossed with green, as that of the crown; rump and tail coverts, as well as the whole wings and tail, very pale ash; legs and feet a pale yellow cream color; inside of the middle claw serrated.

The female differed in nothing as to plumage from the male, but in the wings being of rather a deeper ash; having not only the dark deep green-blue crown and back, but also the long pendent white plumes from the hind-head. Each of the females contained a large cluster of eggs, of various sizes.

The young (fig. 3) was shot soon after it had left the nest, and differed very little from those which had been taken from the trees, except in being somewhat larger. This measured twenty-one inches in length, and three feet in extent; the general color above a very deep brown, streaked with reddish white, the spots of white on the back and wings being triangular, from the centre of the feather to the tip; quills deep dusky, marked on the tips with a spot of white; eye vivid orange; belly white, streaked with dusky, the feathers being pale dusky, streaked down their centres with white; legs and feet light green; inside of the middle claw slightly pectinated; body and wings exceedingly thin and limber; the down still stuck in slight tufts to the tips of some of the feathers.

These birds also breed in great numbers in the neighborhood of New

Orleans, for being in that city in the month of June, I frequently observed the Indians sitting in market with the dead and living young birds for sale; also numbers of Gray Owls (*Strix nebulosa*), and the White Ibis (*Tantalus albus*), for which nice dainties I observed they generally found purchasers.

The food of the Night Heron or Qua-Bird, is chiefly composed of small fish, which it takes by night. Those that I opened had a large expansion of the gullet immediately under the bill, that narrowed thence to the stomach, which is a large oblong pouch, and was filled with fish. The teeth of the pectinated claw were thirty-five or forty in number, and as they contained particles of the down of the bird, showed evidently, from this circumstance, that they act the part of a comb, to rid the bird of vermin, in those parts which it cannot reach with its bill.

NOTE.—In those specimens which I have procured in the breeding season, I have taken notice that the lores and orbits were of a bluish white; but in a female individual, which I shot in East Florida, in the month of March, these parts were of a delicate violet color.

The Brown Bittern of Catesby (Vol. I., pl. 78), which has not a little confounded ornithologists, is undoubtedly the young of the Night Heron. Dr. Latham says of the former, “we believe it to be a female of the Green Heron.—They certainly differ,” continues he, “as Brisson has described them; but by comparison, no one can fail of being of the opinion here advanced.” If the worthy naturalist had had the same opportunities of comparing the two birds in question as we have had, he would have been as confident that they are not the same, as we are.—*G. Ord.*

SPECIES IX. *ARDEA CANDIDISSIMA.*

SNOWY HERON.*

[Plate LXII. Fig. 4.]

TURT. *Syst.* p. 380.—LATH. *Syn.* III., p. 92, No. 61.

THIS elegant species inhabits the seacoast of North America, from the Isthmus of Darien to the Gulf of St. Lawrence, and is, in the United States, a bird of passage; arriving from the south early in April, and leaving the Middle States again in October. Its general appearance, resembling so much that of the Little Egret of Europe, has, I doubt not, imposed on some of the naturalists of that country, as I confess it did on me.† From a more careful comparison, however, of both birds, I am satisfied that they are two entirely different and distinct species. These differences consist in the large flowing crest, yellow feet, and singularly curled plumes of the back of the present; it is also nearly double the size of the European species.

The Snowy Heron seems particularly fond of the salt marshes during summer; seldom penetrating far inland. Its white plumage renders it a very conspicuous object, either while on wing, or while wading the meadows or marshes. Its food consists of those small crabs, usually called *fiddlers*, mud worms, snails, frogs and lizards. It also feeds on the seeds of some species of nymphæ, and of several other aquatic plants.

On the nineteenth of May, I visited an extensive *breeding place* of the Snowy Heron, among the red cedars of Sommers' Beach, on the coast of Cape May. The situation was very sequestered, bounded on the land side by a fresh water marsh or pond, and sheltered from the Atlantic by ranges of sand hills. The cedars, though not high, were so closely crowded together, as to render it difficult to penetrate through among them. Some trees contained three, others four, nests, built wholly of sticks. Each had in it three eggs of a pale greenish blue color, and measuring an inch and three quarters in length, by an inch and a quarter in thickness. Forty or fifty of these eggs were cooked,

* Named in the plate, by mistake, the *Little Egret*.

† "On the American continent, the Little Egret is met with at New York and Long Island." LATH. III., p. 90.

and found to be well tasted; the white was of a bluish tint, and almost transparent, though boiled for a considerable time; the yolk very small in quantity. The birds rose in vast numbers, but without clamor, alighting on the tops of the trees around, and watching the result in silent anxiety. Among them were numbers of the Night Heron, and two or three Purple-headed Herons. Great quantities of egg shells lay scattered under the trees, occasioned by the depredations of the Crows, who were continually hovering about the place. On one of the nests I found the dead body of the bird itself, half devoured by the Hawks, Crows, or Gulls. She had probably perished in defence of her eggs.

The Snowy Heron is seen at all times, during summer, among the salt marshes, watching and searching for food; or passing, sometimes in flocks, from one part of the bay to the other. They often make excursions up the rivers and inlets; but return regularly, in the evening, to the red cedars on the beach, to roost. I found these birds on the Mississippi, early in June, as far up as Fort Adams, roaming about among the creeks, and inundated woods.

The length of this species is two feet one inch; extent three feet two inches; the bill is four inches and a quarter long, and grooved; the space from the nostril to the eye orange yellow, the rest of the bill black; irides vivid orange; the whole plumage is of a snowy whiteness; the head is largely crested with loose unwebbed feathers, nearly four inches in length; another tuft of the same covers the breast; but the most distinguished ornament of this bird is a bunch of long silky plumes, proceeding from the shoulders, covering the whole back, and extending beyond the tail: the shafts of these are six or seven inches long, extremely elastic, tapering to the extremities, and thinly set with long slender bending threads or fibres, easily agitated by the slightest motion of the air—these shafts curl upwards at the ends. When the bird is irritated, and erects those airy plumes, they have a very elegant appearance; the legs, and naked part of the thighs, are black; the feet bright yellow; claws black, the middle one pectinated.

The female can scarcely be distinguished by her plumage, having not only the crest, but all the ornaments of the male, though not quite so long and flowing.

The young birds of the first season are entirely destitute of the long plumes of the breast and back; but, as all those that were examined in spring were found crested and ornamented as above, they doubtless receive their full dress on the first moulting. Those shot in October measured twenty-two inches in length, by thirty-four in extent; the crest was beginning to form; the legs yellowish green, daubed with black; the feet greenish yellow; the lower mandible white at the base; the wings, when shut, nearly of a length with the tail, which is even at the end.

The Little Egret, or European species, is said by Latham and Turton to be nearly *a foot* in length; Bewick observes, that it rarely exceeds a foot and a half; has a much shorter crest, with *two* long feathers; the feet are black; and the long plumage of the back, instead of turning up at the extremity, falls over the rump.

The young of both these birds are generally very fat, and esteemed by some people as excellent eating.

NOTE.—Catesby represents the bill of this bird as red, and this error has been perpetuated by all succeeding ornithologists. The fact is, that the bills of young Herons are apt to assume a reddish tint after death, and this was evidently mistaken by Catesby for a permanent living color; and represented as such by an exaggeration common to almost all colorers of plates of Natural History. We have no hesitation in asserting that a Heron such as that figured by the author in question does not exist in the United States. That his Heron is identical with ours there can be no doubt, and we are equally satisfied that his specimen was a bird of the first year. So common did we find this species along the coasts of the Carolinas, Georgia and East Florida, during the winter, that they were to be seen every hour of the day, and were almost as tame as domestic fowls. A specimen shot in East Florida was twenty-one inches in length; the upper mandible, and tip of the lower, were black, base of the latter flesh colored, the remainder of bill yellow.—*G. Ord.*

SPECIES X. *ARDEA AMERICANA*.*

WHOOPING CRANE.

[Plate LXIV. Fig. 3.]

Arct. Zool. No. 339.—CATESB. I., 75.—LATH. III., p. 42.—*La Grue d'Amerique*,
BRISS. V., p. 382.—*Pl. Enl.* 889.†

THIS is the tallest and most stately species of all the feathered tribes of the United States; the watchful inhabitant of extensive salt marshes, desolate swamps, and open morasses, in the neighborhood of the sea. Its migrations are regular, and of the most extensive kind, reaching from the shores and inundated tracts of South America to the arctic circle. In these immense periodical journeys they pass at such a prodigious height in the air as to be seldom observed. They have, however, their resting stages on the route to and from their usual breeding places, the regions of the north. A few sometimes make their appearance in the marshes of Cape May, in December, particularly on and near Egg Island, where they are known by the name of *Storks*. The younger birds are easily distinguished from the rest by the brownness of their plumage. Some linger in these marshes the whole winter, setting out north about the time the ice breaks up. During their stay they wander along the marsh and muddy flats of the seashore in search of marine worms, sailing occasionally from place to place, with a low and heavy flight, a little above the surface; and have at such times a very formidable appearance. At times they utter a loud clear and piercing cry, which may be heard at the distance of two miles. They have also various modulations of this singular note, from the peculiarity of which they derive their name. When wounded they attack the gunner, or his dog, with great resolution; and have been known to drive their sharp and formidable bill, at one stroke, through a man's hand.

During winter they are frequently seen in the low grounds and rice plantations of the Southern States, in search of grain and insects. On the tenth of February I met with several near the Waccamau river, in South Carolina; I also saw a flock at the ponds near Louisville, Kentucky, on the twentieth of March. They are extremely shy and vigi-

* This bird belongs to the genus *Grus* of Pallas.

† *Grus Americana*, Ord's ed. vol. VIII., p. 20.

lant, so that it is with the greatest difficulty they can be shot. They sometimes rise in the air spirally to a great height, the mingled noise of their screaming, even when they are almost beyond the reach of sight, resembling that of a pack of hounds in full cry. On these occasions they fly around in large circles, as if reconnoitring the country to a vast extent for a fresh quarter to feed in. Their flesh is said to be well tasted, nowise savoring of fish. They swallow mice, moles, rats, &c., with great avidity. They build their nests on the ground, in tussocks of long grass, amidst solitary swamps, raise it to more than a foot in height, and lay two pale blue eggs, spotted with brown. These are much larger, and of a more lengthened form, than those of the common hen.

The Cranes are distinguished from the other families of their genus by the comparative baldness of their heads, the broad flag of plumage projecting over the tail, and in general by their superior size. They also differ in their internal organization from all the rest of the Heron tribe, particularly in the conformation of the windpipe, which enters the breast bone in a cavity fitted to receive it, and after several turns goes out again at the same place, and thence descends to the lungs. Unlike the Herons, they have not the inner side of the middle claw pectinated, and, in this species at least, the hind toe is short, scarcely reaching the ground.

The vast marshy flats of Siberia are inhabited by a Crane very much resembling the present, with the exception of the bill and legs being red; like those of the present, the year old birds are said also to be tawny.

It is highly probable that the species described by naturalists as the Brown Crane (*Ardea Canadensis*), is nothing more than the young of the Whooping Crane,* their descriptions exactly corresponding with the latter. In a flock of six or eight, three or four are usually of that tawny or reddish brown tint on the back, scapulars, and wing coverts, but are evidently yearlings of the Whooping Crane, and differ in nothing but in that and size from the others. They are generally five or six inches shorter, and the primaries are of a brownish cast.

The Whooping Crane is four feet six inches in length, from the point of the bill to the end of the tail, and when standing erect measures nearly five feet; the bill is six inches long, and an inch and a half in thickness, straight, extremely sharp, and of a yellowish brown color; the irides are yellow; the forehead, whole crown and cheeks are covered

* This is an error into which our author was led in consequence of never having seen a specimen of the bird in question (*Ardea Canadensis*, LINN.—*Grus Freti Hudsonis*, BRISS.). Peale's Museum contained a fine specimen, which was brought by the naturalists attached to Major Long's exploring party, who ascended the Missouri in the year 1820. Bartram calls this Crane the *Grus pratensis*. It is known to travellers by the name of Sandhill Crane.

with a warty skin thinly interspersed with black hairs; these become more thickly set towards the base of the bill; the hind head is of an ash color; the rest of the plumage pure white, the primaries excepted, which are black; from the root of each wing rise numerous large flowing feathers projecting over the tail and tips of the wings; the uppermost of these are broad, drooping, and pointed at the extremities, some of them are also loosely webbed, their silky fibres curling inwards like those of the Ostrich. They seem to occupy the place of the tertials. The legs and naked parts of the thigh are black, very thick and strong; the hind toe seems rarely or never to reach the hard ground, though it may probably assist in preventing the bird from sinking too deep in the mire.

SPECIES II. *ARDEA VIOLACEA*.

YELLOW-CROWNED HERON.

[Plate LXV. Fig. 1.]

LINN. *Syst.* I., p. 238, 16.—LATH. *Syn.* III., p. 80.—*Le Crabier de Bahama*, BRISS. V., 481, 41.—*Crested Bittern*, CATES. I., pl. 79.—*Le Crabier gris de fer*, BUFF. VII., p. 399.—*Arct. Zool.* No. 352.*

THIS is one of the nocturnal species of the Heron tribe, whose manners, place and mode of building its nest, resemble greatly those of the common Night Heron (*Ardea nycticorax*); the form of its bill is also similar. The very imperfect figure and description of this species by Catesby, seems to have led the greater part of European ornithologists astray, who appear to have copied their accounts from that erroneous source, otherwise it is difficult to conceive why they should either have given it the name of *yellow-crowned*, or have described it as being only fifteen inches in length; since the crown of the perfect bird is pure white, and the whole length very near two feet. The name however, erroneous as it is, has been retained in the present account, for the purpose of more particularly pointing out its absurdity, and designating the species.

This bird inhabits the lower parts of South Carolina, Georgia, and Louisiana, in the summer season; reposing during the day among low

* We add the following synonyms:—*Ardea violacea*, LATH. *Ind. Orn.* p. 690, No. 50.—*Ardea Cayenensis*, Id. p. 680, No. 17.—*Gen. Syn.* III., p. 80, No. 46.—*Cayenne Night Heron*, Id. p. 56, No. 16.—*Bihoreau de Cayenne*, Pl. Enl. 899.—*Ardea violacea*, GMEL. *Syst.* I., p. 631, No. 16.—*Ardea Cayenensis*, Id. p. 626, No 31.

swampy woods, and feeding only in the night. It builds in societies, making its nest with sticks among the branches of low trees, and lays four pale blue eggs. The species is not numerous in Carolina, which, with its solitary mode of life, makes this bird but little known there. It abounds on the Bahama Islands, where it also breeds, and great numbers of the young, as we are told, are yearly taken for the table, being accounted in that quarter excellent eating. This bird also extends its migrations into Virginia, and even farther north; one of them having been shot a few years ago on the borders of the Schuylkill below Philadelphia.

The food of this species consists of small fish, crabs and lizards, particularly the former; it also appears to have a strong attachment to the neighborhood of the ocean.

The Yellow-crowned Heron is twenty-two inches in length, from the point of the bill to the end of the tail; the long flowing plumes of the back extend four inches farther; breadth from tip to tip of the expanded wings thirty-four inches; bill black, stout, and about four inches in length, the upper mandible grooved exactly like that of the common Night Heron; lores pale green; irides fiery red; head and part of the neck black, marked on each cheek with an oblong spot of white; crested crown and upper part of the head white, ending in two long narrow tapering plumes of pure white, more than seven inches long; under these are a few others of a blackish color; rest of the neck and whole lower parts fine ash, somewhat whitish on that part of the neck where it joins the black; upper parts a dark ash, each feather streaked broadly down the centre with black, and bordered with white; wing quills deep slate, edged finely with white; tail even at the end, and of the same ash color; wing coverts deep slate, broadly edged with pale cream; from each shoulder proceed a number of long loosely webbed tapering feathers, of an ash color, streaked broadly down the middle with black, and extending four inches or more beyond the tips of the wings; legs and feet yellow; middle claw pectinated. Male and female, as in the common Night Heron, alike in plumage.

I strongly suspect that the species called by naturalists the *Cayenne Night Heron* (*Ardea Cayanensis*), is nothing more than the present, with which, according to their descriptions, it seems to agree almost exactly.

GENUS LXX. TANTALUS. IBIS.

SPECIES I. TANTALUS LOCULATOR.

WOOD IBIS.

[Plate LXVI. Fig. 1.]

Le grand Courli d'Amérique, BRISS. v. 358, 8.—*Couricaca*, BUFF. VII., p. 276, *Pl. Enl.* 868.—CATESB. I., 81.—*Arct. Zool.* No. 360.—LATH. *Syn.* III., p. 104.

THE Wood Ibis inhabits the lower parts of Louisiana, Carolina, and Georgia; is very common in Florida, and extends as far south as Cayenne, Brazil, and various parts of South America. In the United States it is migratory; but has never, to my knowledge, been found to the north of Virginia. Its favorite haunts are watery savannahs and inland swamps, where it feeds on fish and reptiles. The French inhabitants of Louisiana esteem it good eating.

With the particular manners of this species I am not personally acquainted; but the following characteristic traits are given of it by Mr. William Bartram, who had the best opportunities of noting them.

"This solitary bird," he observes, "does not associate in flocks; but is generally seen alone, commonly near the banks of great rivers, in vast marshes or meadows, especially such as are covered by inundations, and also in the vast deserted rice plantations; he stands alone, on the topmost limb of tall dead cypress trees, his neck contracted or drawn in upon his shoulders, his beak resting like a long scythe upon his breast; in this pensive posture, and solitary situation, they look extremely grave, sorrowful and melancholy, as if in the deepest thought. They are never seen on the seacoast, and yet are never found at a great distance from it. They feed on serpents, young alligators, frogs, and other reptiles."*

The figure of this bird given in the plate was drawn from a very fine specimen, sent from Georgia by Stephen Elliott, Esq., of Beaufort, South Carolina; its size and markings were as follow:

Length three feet two inches; bill nearly nine inches long, straight for half its length, thence curving downwards to the extremity, and full two inches thick at the base, where it rises high in the head, the whole of a brownish horn color; the under mandible fits into the upper in its

* Travels, &c., p. 150.

whole length, and both are very sharp edged; face and naked head and part of the neck dull greenish blue, wrinkled; eye large, seated high in the head; irides dark red; under the lower jaw is a loose corrugated skin, or pouch, capable of containing about half a pint; whole body, neck and lower parts white; quills dark glossy green and purple; tail about two inches shorter than the wings, even at the end, and of a deep and rich violet; legs and naked thighs dusky green; feet and toes yellowish sprinkled with black; feet almost semipalmated and bordered to the claws with a narrow membrane; some of the greater wing coverts are black at the root, and shafted with black; plumage on the upper ridge of the neck generally worn, as in the present specimen, with rubbing on the back, while in its common position of resting its bill on its breast, in the manner of the White Ibis (see fig. 3).

The female has only the head and chin naked; both are subject to considerable changes of color when young; the body being found sometimes blackish above, the belly cinereous, and spots of black on the wing coverts; all of which, as the birds advance in age, gradually disappear, and leave the plumage of the body, &c., as has been described.

SPECIES II. *TANTALUS RUBER.*

SCARLET IBIS.

[Plate LXVI. Fig. 2.]

Le Courli rouge du Brésil, BRISS. v., p. 344, 12, fig. 1, 2.—BUFF. viii., p. 35.—*Red Curlew*, CATESBY, I., 84.—LATH. III., p. 106.—*Arct. Zool.* No. 361.*

THIS beautiful bird is found in the most southern parts of Carolina; also in Georgia and Florida, chiefly about the seashore and its vicinity. In most parts of America within the tropics, and in almost all the West India Islands it is said to be common; also in the Bahamas. Of its manners little more has been collected than that it frequents the borders of the sea and shores of the neighboring rivers, feeding on small fry, shell fish, sea worms and small crabs. It is said frequently to perch on trees, sometimes in large flocks; but to lay its eggs on the ground on a bed of leaves. The eggs are described as being of a greenish color;

* We add the following synonymes:—*Tantalus Ruber*, LATH. *Ind. Orn.* p. 703, No. 2.—*T. fuscus*, Id. p. 705, No. 8.—GMEL. *Syst.* I., p. 651, No. 5, No. 7.—*Le Courli brun du Brésil*, BRISS. v., p. 341.—*Brown Curlew*, CATESBY, I. 83, young.—*Courli rouge du Brésil, de l'age de deux ans*, Pl. *Enl.* 80.—Id. *de l'age de trois ans*, 81

the young when hatched black, soon after gray, and before they are able to fly white, continuing gradually to assume their red color until the third year, when the scarlet plumage is complete. It is also said that they usually keep in flocks, the young and old birds separately. They have frequently been domesticated. One of them which lived for some time in the museum of this city, was dexterous at catching flies, and most usually walked about, on that pursuit, in the position in which it is represented in the plate.

The Scarlet Ibis measures twenty-three inches in length, and thirty-seven in extent; the bill is five inches long, thick, and somewhat of a square form at the base, gradually bent downwards and sharply ridged, of a black color, except near the base, where it inclines to red; irides dark hazel; the naked face is finely wrinkled, and of a pale red; chin also bare and wrinkled for about an inch; whole plumage a rich glowing scarlet, except about three inches of the extremities of the four outer quill feathers, which are of a deep steel blue; legs and naked part of thighs pale red, the three anterior toes united by a membrane as far as the first joint.

Whether the female differs in the color of her plumage from the male, or what changes both undergo during the first and second years, I am unable to say from personal observation. Being a scarce species with us, and only found on our most remote southern shores, a sufficient number of specimens have not been procured to enable me to settle this matter with sufficient certainty.

NOTE.—It would appear that this species inhabits the western coast of America. In the Appendix to the History of Lewis and Clark's Expedition, Vol. II., p. 514, under date of March 7, the Journalist says, "A bird of a scarlet color, as large as a common pheasant, with a long tail, has returned; one of them was seen to-day near the fort." As all long legged birds fly with their legs in a horizontal position, the legs of that above mentioned must have been mistaken for a tail.—*G. Ord.*

SPECIES III. *TANTALUS ALBUS*.

WHITE IBIS.

[Plate LXVI. Fig. 3.]

Le Courli blanc du Brésil, BRISS. V., p. 339, 10.—BUFF. VIII., p. 41.—*Courly blanc d'Amérique*, Pl. Enl. 915.—*White Curlew*, CATESBY, I., pl. 82.—LATH. Syn. III., p. 111, No. 9.—*Arct. Zool.* No. 363.*

THIS species bears in every respect, except that of color, so strong a resemblance to the preceding, that I have been almost induced to believe it the same, in its white or imperfect stage of color. The length and form of the bill, the size, conformation, as well as color of the legs, the general length and breadth, and even the steel blue on the four outer quill feathers, are exactly alike in both. These suggestions, however, are not made with any certainty of its being the same; but as circumstances which may lead to a more precise examination of the subject hereafter.

I found this species pretty numerous on the borders of Lake Pontchartrain, near New Orleans, in the month of June, and also observed the Indians sitting in market with strings of them for sale. I met with them again on the low keys or islands off the peninsula of Florida. Mr. Bartram observes that "they fly in large flocks or squadrons, evening and morning, to and from their feeding places or roosts, and are usually called Spanish Curlews. They feed chiefly on cray fish, whose cells they probe, and with their strong pinching bills drag them out." The low islands above mentioned abound with these creatures and small crabs, the ground in some places seeming alive with them, so that the rattling of their shells against one another was incessant. My venerable friend, in his observations on these birds adds, "It is a pleasing sight at times of high winds, and heavy thunder storms, to observe the numerous squadrons of these Spanish Curlews, driving to and fro, turning and tacking about high up in the air, when by their various evolutions in the different and opposite currents of the wind, high in the clouds, their silvery white plumage gleams and sparkles like the brightest crystal, reflecting the sunbeams that dart upon them between the dark clouds."

* *Tantalus albus*, LATH. Ind. Orn. p. 705, No. 9.—GMEL. Syst. p. 651, No. 6.

The White Ibis is twenty-three inches long, and thirty-seven inches in extent; bill formed exactly like that of the scarlet species, of a pale red, blackish towards the point; face a reddish flesh color and finely wrinkled; irides whitish; whole plumage pure white, except about four inches of the tips of the four outer quill feathers, which are of a deep and glossy steel blue; legs and feet pale red, webbed to the first joint.

These birds I frequently observed standing on the dead limbs of trees, and on the shore, resting on one leg, their body in an almost perpendicular position, as represented in the figure, the head and bill resting on the breast. This appears to be its most common mode of resting, and perhaps sleeping, as in all those which I examined the plumage on the upper ridge of the neck and upper part of the back, was evidently worn by this habit. The same is equally observable on the neck and back of the Wood Ibis.

The present species rarely extends its visits north of Carolina, and even in that state is only seen for a few weeks towards the end of summer. In Florida they are common; but seldom remove to any great distance from the sea.

GENUS LXXI. NUMENIUS. CURLEW.

SPECIES I. *N. LONGIROSTRIS.*

LONG-BILLED CURLEW.

[Plate LXIV. Fig. 4.]

THIS American species has been considered by the naturalists of Europe to be a mere *variety* of their own, notwithstanding its difference of color, and superior length of bill. These differences not being accidental, or found in a few individuals, but common to all, and none being found in America corresponding with that of Europe, we do not hesitate to consider the present as a distinct species, peculiar to this country.

Like the preceding, this bird is an inhabitant of marshes in the vicinity of the sea. It is also found in the interior; where, from its long bill and loud whistling note, it is generally known.

The Curlews appear in the salt marshes of New Jersey about the middle of May, on their way to the north; and in September, on their return from their breeding places. Their food consists chiefly of small crabs, which they are very dexterous at probing for, and pulling out of

the holes with their long bills; they also feed on those small sea snails so abundant in the marshes, and on various worms and insects. They are likewise fond of bramble berries, frequenting the fields and uplands in search of this fruit, on which they get very fat, and are then tender and good eating, altogether free from the sedgy taste with which their flesh is usually tainted while they feed in the salt marshes.

The Curlews fly high, generally in a wedge-like form, somewhat resembling certain Ducks; occasionally uttering their loud whistling note, by a dexterous imitation of which a whole flock may sometimes be enticed within gunshot, while the cries of the wounded are sure to detain them until the gunner has made repeated shots and great havoc among them.

This species is said to breed in Labrador, and in the neighborhood of Hudson's Bay. A few instances have been known of one or two pair remaining in the salt marshes of Cape May all summer. A person of respectability informed me, that he once started a Curlew from her nest, which was composed of a little dry grass, and contained four eggs, very much resembling in size and color those of the Mud Hen, or Clapper Rail. This was in the month of July. Cases of this kind are so rare, that the northern regions must be considered as the general breeding place of this species.

The Long-billed Curlew is twenty-five inches in length, and three feet three inches in extent, and when in good order weighs about thirty ounces; but individuals differ greatly in this respect; the bill is eight inches long, nearly straight for half its length, thence curving considerably downwards to its extremity, where it ends in an obtuse knob that overhangs the lower mandible; the color black, except towards the base of the lower, where it is of a pale flesh color; tongue extremely short, differing in this from the Snipe; eye dark; the general color of the plumage above is black, spotted and barred along the edge of each feather with pale brown; chin, line over the eye and round the same, pale brownish white; neck reddish brown, streaked with black; spots on the breast more sparingly dispersed; belly, thighs and vent pale plain rufous, without any spots; primaries black on the outer edges, pale brown on the inner, and barred with black; shaft of the outer one snowy; rest of the wing pale reddish brown, elegantly barred with undulating lines of black; tail slightly rounded, of an ashy brown, beautifully marked with herring-bones of black; legs and naked thighs very pale light blue or lead color, the middle toe connected with the two outer ones as far as the first joint by a membrane, and bordered along the sides with a thick warty edge; lining of the wing dark rufous, approaching a chestnut, and thinly spotted with black. Male and female alike in plumage. The bill continues to grow in length until the second season, when the bird receives its perfect plumage. The

stomach of this species is lined with an extremely thick skin, feeling to the touch like the rough hardened palm of a sailor or blacksmith. The intestines are very tender, measuring usually about three feet in length, and as thick as a Swan's quill. On the front, under the skin, there are two thick callosities, which border the upper side of the eye, lying close to the skull. These are common, I believe, to most of the *Tringa* and *Scolopax* tribes, and are probably designed to protect the skull from injury while the bird is probing and scratching in the sand and mud.

NOTE.—This species was observed by Lewis and Clark as high up as the sources of the Missouri. On the twenty-second June they found the females were sitting: the eggs, which are of a pale blue, with black specks, were laid upon the bare ground. *Hist. of the Exped. vol. I. p. 279, 8vo.*

SPECIES II. *N. BOREALIS*.*

ESQUIMAUX CURLEW.

[Plate LVI. Fig. 1.]

Arct. Zool. p. 461, No. 364.—LATH. III.—TURT. *Syst. p. 392.*

IN prosecuting our researches among the feathered tribes of this extensive country, we are at length led to the shores of the ocean, where a numerous and varied multitude, subsisting on the gleanings of that vast magazine of nature, invite our attention; and from their singularities and numbers, promise both amusement and instruction. These we shall, as usual, introduce in the order we chance to meet with them in their native haunts. Individuals of various tribes, thus promiscuously grouped together, the peculiarities of each will appear more conspicuous and striking, and the detail of their histories less formal as well as more interesting.

The Esquimaux Curlew, or as it is called by our gunners on the sea-coast, the Short-billed Curlew, is peculiar to the new continent, Mr. Pennant, indeed, conceives it to be a mere variety of the English Whimbrel (*S. Phæopus*); but among the great numbers of these birds which I have myself shot and examined, I have never yet met with one corresponding to the descriptions given of the *Whimbrel*, the colors and markings being different, the bill much more bent, and nearly an inch and a half longer; and the manners in certain particulars very

* Wilson erroneously arranged this in the following genus, *Scolopax*.

different: these reasons have determined its claim to that of an independent species.

The Short-billed Curlew arrives in large flocks on the seacoast of New Jersey early in May from the south; frequents the salt marshes, muddy shores and inlets, feeding on small worms and minute shell-fish. They are most commonly seen on mud flats at low water, in company with various other waders; and at high water roam along the marshes. They fly high, and with great rapidity. A few are seen in June, and as late as the beginning of July, when they generally move off towards the north. Their appearance on these occasions is very interesting: they collect together from the marshes as if by premeditated design, rise to a great height in the air, usually about an hour before sunset, and forming in one vast line, keep up a constant whistling on their march to the north, as if conversing with one another to render the journey more agreeable. Their flight is then more slow and regular, that the feeblest may keep up with the line of march, while the glittering of their beautifully speckled wings, sparkling in the sun, produces altogether a very pleasant spectacle.

In the month of June, while the dewberries are ripe, these birds sometimes frequent the fields in company with the Long-billed Curlews, where brambles abound, soon get very fat, and are at that time excellent eating. Those who wish to shoot them, fix up a shelter of brushwood in the middle of the field, and by that means kill great numbers. In the early part of spring, and indeed during the whole time that they frequent the marshes, feeding on shell-fish, they are much less esteemed for the table.

Pennant informs us, that they were seen in flocks innumerable on the hills about Chatteux Bay, on the Labrador coast, from August the 9th to September 6th, when they all disappeared, being on their way from their northern breeding place.—He adds, “they kept on the open grounds, fed on the *empetrum nigrum*, and were very fat and delicious.” They arrive at Hudson’s Bay in April, or early in May; pair and breed to the north of Albany Fort among the woods, return in August to the marshes, and all disappear in September.* About this time they return in accumulated numbers to the shores of New Jersey, whence they finally depart for the south early in November.

The Esquimaux Curlew is eighteen inches long and thirty-two inches in extent; the bill, which is four inches and a half long, is black towards the point, and a pale purplish flesh color near the base; upper part of the head dark brown, divided by a narrow stripe of brownish white; over each eye extends a broad line of pale drab; iris dark colored; hind part of the neck streaked with dark brown, fore part,

* Phil. Trans. LXII., 411.

and whole breast, very pale brown; upper part of the body pale drab, centered and barred with dark brown, and edged with spots of white on the exterior vanes; three first primaries black, with white shafts; rump and tail-coverts barred with dark brown; belly white; vent the same, marked with zigzag lines of brown; whole lining of the wing beautifully barred with brown on a dark cream ground; legs and naked thighs a pale lead color.

The figure of this bird, and of all the rest in the same plate, are reduced to exactly one-half the size of life.

NOTE.—Mr. Ord, in his reprint of the 8th vol., expresses his doubts of this species being the Esquimaux Curlew (*N. borealis*) of Dr. Latham; as this ornithologist states his bird to be only thirteen inches in length, and in breadth twenty-one; and the bill two inches in length.

Prince Musignano, in his observations on the nomenclature of Wilson's Ornithology, states that he has ascertained the *N. borealis*, LATH., to be a distinct species, and promises to figure it in his American Ornithology. He considers Wilson's bird (*N. borealis*) to be the *N. Hudsonicus* of Latham.

GENUS LXXII. SCOLOPAX. SNIPE.

SPECIES I. *SCOLOPAX FEDOA*.*

GREAT MARBLED GODWIT.

[Plate LVI. Fig. 4, Female.]

Arct. Zool. p. 456, No. 371.—*La Barge rousse de Baie de Hudson*, BUFF. VII., 507.†

THIS is another transient visitant of our seacoasts in spring and autumn, to and from its breeding place in the north. Our gunners call it the *Straight-billed Curlew*, and sometimes the *Red Curlew*.‡ It is a shy, cautious, and watchful bird; yet so strongly are they attached to each other, that on wounding one in a flock, the rest are immediately arrested in their flight, making so many circuits over the spot where it lies fluttering and screaming, that the sportsman often makes great destruction among them. Like the Curlew, they may also be enticed within shot, by imitating their call or whistle; but can seldom be ap-

* This bird belongs to the genus *Limosa* of Brisson.

† *Scolopax Fedoa*, LINN. *Syst.* ed. 10, p. 146, No. 8. *S. hamastica*? Id. p. 147, No. 14.—EDWARDS, pl. 137, 138.—*Limosa rufa*, BRISS. v., p. 281, pl. 25, fig. 1.

‡ It is better known under the name of *Merline*.

proached without some such manœuvre. They are much less numerous than the Short-billed Curlews, with whom, however, they not unfrequently associate. They are found among the salt marshes in May, and for some time in June, and also on their return in October and November; at which last season they are usually fat, and in high esteem for the table.

The female of this bird having been described by several writers as a distinct species from the male, it has been thought proper to figure the former; the chief difference consists in the undulating bars of black with which the breast of the male is marked, and which are wanting in the female.

The male of the Great Marbled Godwit is nineteen inches long, and thirty-four inches in extent; the bill is nearly six inches in length, a little turned up towards the extremity, where it is black, the base is of a pale purplish flesh color; chin and upper part of the throat whitish; head and neck mottled with dusky brown and black on a ferruginous ground; breast barred with wavy lines of black; back and scapulars black, marbled with pale brown; rump and tail-coverts of a very light brown, barred with dark brown; tail even, except the two middle feathers, which are a little the longest; wings pale ferruginous, elegantly marbled with dark brown, the four first primaries black on the outer edge; whole lining and lower parts of the wings bright ferruginous; belly and vent light rust color, with a tinge of lake.

The female differs in wanting the bars of black on the breast. The bill does not acquire its full length before the third year.

About fifty different species of the *Scolopax* genus are enumerated by naturalists. These are again by some separated into three classes or sub-genera, viz.: the straight-billed, or Snipes; those with bills bent downwards, or the Curlews; and those whose bills are slightly turned upwards, or Godwits. The whole are a shy, timid and solitary tribe, frequenting those vast marshes, swamps and morasses, that frequently prevail in the vicinity of the ocean, and on the borders of large rivers. They are also generally migratory, on account of the periodical freezing of those places in the northern regions where they procure their food. The Godwits are particularly fond of salt marshes; and are rarely found in countries remote from the sea.

SPECIES II. *SCOLOPAX MINOR*.

WOODCOCK.

[Plate XLVIII. Fig. 2.]

Arct. Zool. p. 463, No. 365.—*TURT. Syst.* 396.*

THIS bird, like the preceding,† is universally known to our sportsmen. It arrives in Pennsylvania early in March, sometimes sooner; and I doubt not but in mild winters some few remain with us the whole of that season. During the day, they keep to the woods and thickets, and at the approach of evening seek the springs, and open watery places, to feed in. They soon disperse themselves over the country to breed. About the beginning of July, particularly in long-continued hot weather, they descend to the marshy shores of our large rivers, their favorite springs and watery recesses, inland, being chiefly dried up. To the former of these retreats they are pursued by the merciless sportman, flushed by dogs, and shot down in great numbers. This species of amusement, when eagerly followed, is still more laborious and fatiguing than that of Snipe-shooting; and from the nature of the ground, or cripple as it is usually called, viz., deep mire, intersected with old logs, which are covered and hid from sight by high reeds, weeds and alder bushes, the best dogs are soon tired out; and it is customary with sportsmen, who regularly pursue this diversion, to have two sets of dogs, to relieve each other alternately.

The Woodcock usually begins to lay in April. The nest is placed on the ground, in a retired part of the woods, frequently at the root of an old stump. It is formed of a few withered leaves, and stalks of grass, laid with very little art. The female lays four, sometimes five, eggs, about an inch and a half long, and an inch or rather more in diameter, tapering suddenly to the small end. These are of a dun clay color, thickly marked with spots of brown, particularly at the great end, and interspersed with others of a very pale purple. The nest of the Woodcock has, in several instances that have come to my knowledge, been found with eggs in February; but its usual time of beginning to

* *Scolopax minor*, LATH. *Ind. Orn.* p. 714, No. 2. *Gen. Syn.* 3, p. 131.

† That is, the common Rail, which precedes the Woodcock in the original edition.

lay is early in April. In July, August and September, they are considered in good order for shooting.

The Woodcock is properly a nocturnal bird, feeding chiefly at night, and seldom stirring about till after sunset. At such times, as well as in the early part of the morning, particularly in spring, he rises by a kind of spiral course, to a considerable height in the air, uttering at times a sudden *quack*, till having gained his utmost height, he hovers around in a wild irregular manner, making a sort of murmuring sound; then descends with rapidity as he rose. When uttering his common note on the ground, he seems to do it with difficulty, throwing his head towards the earth, and frequently jetting up his tail. These notes and manœuvres are most usual in spring, and are the call of the male to his favorite female. Their food consists of various larvæ, and other aquatic worms, for which, during the evening, they are almost continually turning over the leaves with their bill, or searching in the bogs. Their flesh is reckoned delicious, and prized highly. They remain with us till late in autumn; and on the falling of the first snows, descend from the ranges of the Alleghany, to the lower parts of the country, in great numbers; soon after which, viz., in November, they move off to the south.

This bird, in its general figure and manners, greatly resembles the Woodcock of Europe, but is considerably less, and very differently marked below, being an entirely distinct species. A few traits will clearly point out their differences. The lower parts of the European Woodcock are thickly barred with dusky waved lines, on a yellowish white ground. The present species has those parts of a bright ferruginous. The male of the American species weighs from five to six ounces, the female eight: the European twelve. The European Woodcock makes its first appearance in Britain in October and November, that country being in fact only its winter quarters; for early in March they move off to the northern parts of the continent to breed. The American species, on the contrary, winters in countries south of the United States, arrives here early in March, extends its migrations as far, at least, as the river St. Lawrence, breeds in all the intermediate places, and retires again to the south on the approach of winter. The one migrates from the torrid to the temperate regions; the other from the temperate to the arctic. The two birds, therefore, notwithstanding their names are the same, differ not only in size and markings, but also in native climate. Hence the absurdity of those who would persuade us, that the Woodcock of America crosses the Atlantic to Europe, and *vice versa*. These observations have been thought necessary, from the respectability of some of our own writers, who seem to have adopted this opinion.

How far to the north our Woodcock is found, I am unable to say. It

is not mentioned as a bird of Hudson's Bay; and being altogether unknown in the northern parts of Europe, it is very probable that its migrations do not extend to a very high latitude; for it may be laid down as a general rule, that those birds which migrate to the arctic regions in either continent, are very often common to both. The head of the Woodcock is of singular conformation, large, somewhat triangular, and the eye fixed at a remarkable distance from the bill, and high in the head. This construction was necessary to give a greater range of vision, and to secure the eye from injury while the owner is searching in the mire. The flight of the Woodcock is slow. When flushed at any time in the woods, he rises to the height of the bushes or underwood, and almost instantly drops behind them again at a short distance, generally running off for several yards as soon as he touches the ground. The notion that there are two species of Woodcock in this country probably originated from the great difference of size between the male and female, the latter being considerably the larger.

The male Woodcock is ten inches and a half long, and sixteen inches in extent; bill a brownish flesh color, black towards the tip, the upper mandible ending in a slight knob, that projects about one-tenth of an inch beyond the lower,* each grooved, and in length somewhat more than two inches and a half; forehead, line over the eye, and whole lower parts, reddish tawny; sides of the neck inclining to ash; between the eye and bill a slight streak of dark brown; crown, from the forepart of the eye backwards, black, crossed by three narrow bands of brownish white; cheeks marked with a bar of black, variegated with light brown; edges of the back, and of the scapulars, pale bluish white; back and scapulars deep black, each feather tipped or marbled with light brown and bright ferruginous, with numerous fine zigzag lines of black crossing the lighter parts; quills plain dusky brown; tail black, each feather marked along the outer edge with small spots of pale brown, and ending in narrow tips of a pale drab color above, and silvery white below; lining of the wing bright rust; legs and feet a pale reddish flesh color; eye very full and black, seated high, and very far back in the head; weight five ounces and a half, sometimes six.

The female is twelve inches long, and eighteen in extent; weighs eight ounces; and differs also in having the bill very near three inches in length; the black on the back is not quite so intense; and the sides under the wings are slightly barred with dusky.

The young Woodcocks, of a week or ten days old, are covered with

* Mr. Pennant (*Arct. Zool.* p. 463), in describing the American Woodcock, says, that the lower mandible is much shorter than the upper. From the appearance of his figure, it is evident that the specimen from which that and his description were taken, had lost nearly half an inch from the lower mandible, probably broken off by accident. Turton and others have repeated this mistake.

down of a brownish white color, and are marked from the bill, along the crown to the hind-head, with a broad stripe of deep brown; another line of the same passes through the eyes to the hind-head, curving under the eye; from the back to the rudiments of the tail runs another of the same tint, and also on the sides under the wings; the throat and breast are considerably tinged with rufous; and the quills, at this age, are just bursting from their light blue sheaths, and appear marbled as in the old birds; the legs and bill are of a pale purplish ash color, the latter about an inch long. When taken, they utter a long, clear, but feeble *peep*, not louder than that of a mouse. They are far inferior to young Partridges in running and skulking; and should the female unfortunately be killed, may easily be taken on the spot.

SPECIES III. *SCOLOPAX GALLINAGO*.*

S N I P E.

[Plate XLVII. Fig. 1.]

THIS bird is well known to our sportsmen; and, if not the same, has a very near resemblance to the common Snipe of Europe. It is usually known by the name of the *English Snipe*, to distinguish it from the Woodcock, and from several others of the same genus. It arrives in Pennsylvania about the tenth of March, and remains in the low grounds for several weeks; the greater part then move off to the north, and to the higher inland districts to breed. A few are occasionally found, and consequently breed, in our low marshes during the summer. When they first arrive, they are usually lean; but when in good order are accounted excellent eating. They are, perhaps, the most difficult to shoot of all our birds, as they fly in sudden zigzag lines, and very rapidly. Great numbers of these birds winter in the rice grounds of the Southern States, where, in the month of February, they appeared to be much tamer than they are usually here, as I frequently observed

* In consequence of Wilson's doubts, whether this bird was the *S. Gallinago* or not, he gave no synonymes. The Prince of Musignano, convinced that it was a distinct species, adopted for it the name of *Brehmii*, under the impression that it was identical with the Snipe lately discovered in Germany, and described under the above-mentioned name. It appears to be neither the *Gallinago* nor the *Brehmii*, but a bird peculiar to our country: In Mr. Ord's supplement to Wilson's Ornithology, it is classed under the name of *Scolopax delicata*.

them running about among the springs and watery thickets. I was told by the inhabitants, that they generally disappeared early in the spring. On the twentieth of March I found these birds extremely numerous on the borders of the ponds near Louisville, Kentucky; and also in the neighborhood of Lexington in the same state, as late as the tenth of April. I was told by several people, that they are abundant in the Illinois country, up as far as Lake Michigan. They are but seldom seen in Pennsylvania during the summer, but are occasionally met with in considerable numbers on their return in autumn, along the whole eastern side of the Alleghany, from the sea to the mountains. They have the same soaring irregular flight in the air in gloomy weather as the Snipe of Europe; the same bleating note, and occasional rapid descent; spring from the marshes with the like feeble *squeak*; and in every respect resemble the common Snipe of Britain, except in being about an inch less; and in having sixteen feathers in the tail instead of fourteen, the number said by Bewick to be in that of Europe. From these circumstances, we must either conclude this to be a different species, or partially changed by difference of climate; the former appears to me the more probable opinion of the two.

These birds abound in the meadows, and low grounds, along our large rivers, particularly those that border the Schuylkill and Delaware, from the tenth of March to the middle of April, and sometimes later, and are eagerly sought after by many of our gunners. The nature of the grounds, however, which these birds frequent, the coldness of the season, and peculiar shyness and agility of the game, render this amusement attractive only to the most dexterous, active, and eager of our sportsmen.

The Snipe is eleven inches long, and seventeen inches in extent; the bill is more than two inches and a half long, fluted lengthwise, of a brown color, and black towards the tip, where it is very smooth while the bird is alive, but soon after it is killed becomes dimpled like the end of a thimble; crown black, divided by an irregular line of pale brown; another broader one of the same tint passes over each eye; from the bill to the eye there is a narrow dusky line; neck, and upper part of the breast, pale brown, variegated with touches of white and dusky; chin pale; back and scapulars deep velvety black, the latter elegantly marbled with waving lines of ferruginous, and broadly edged exteriorly with white; wings plain dusky, all the feathers, as well as those of the coverts, tipped with white; shoulder of the wing deep dusky brown, exterior quill edged with white; tail-coverts long, reaching within three-quarters of an inch of the tip, and of a pale rust color spotted with black; tail rounded, deep black, ending in a bar of bright ferruginous, crossed with a narrow waving line of black, and tipped with whitish; belly pure white; sides barred with dusky; legs and feet

a very pale ashy green; sometimes the whole thighs, and sides of the vent, are barred with dusky and white, as in the figure in the plate.

The female differs in being more obscure in her colors; the white on the back being less pure, and the black not so deep.

SPECIES IV. *SCOLOPAX NOVEBORACENSIS*.

RED-BREASTED SNIPE.

[Plate LVIII. Fig. 1.]

Arct. Zool. p. 464, No. 368.*

THIS bird has a considerable resemblance to the common Snipe, not only in its general form, size and colors, but likewise in the excellence of its flesh, which is in high estimation. It differs, however, greatly from the common Snipe in its manners, and in many other peculiarities, a few of which, as far as I have myself observed, may be sketched as follows. The Red-breasted Snipe arrives on the seacoast of New Jersey early in April; is seldom or never seen inland: early in May it proceeds to the north to breed, and returns by the latter part of July, or beginning of August. During its stay here it flies in flocks, sometimes very high, and has then a loud and shrill whistle, making many evolutions over the marshes; forming, dividing, and reuniting. They sometimes settle in such numbers, and so close together, that eighty-five have been shot at one discharge of a musket. They spring from the marshes with a loud twirling whistle, generally rising high, and making several circuitous manœuvres in air, before they descend. They frequent the sand-bars, and mud-flats, at low water, in search of food; and being less suspicious of a boat than of a person on shore, are easily approached by this medium, and shot down in great numbers. They usually keep by themselves, being very numerous; are in excellent order for the table in September; and on the approach of winter retire to the south.

I have frequently amused myself with the various action of these birds. They fly very rapidly, sometimes wheeling, coursing and doubling along the surface of the marshes; then shooting high in air, there separating; and forming in various bodies, uttering a kind of quivering whistle. Among many which I opened in May, were several

* We add the following synonyms:—*Scolopax noveboracensis*, LATH. *Ind. Orn.* p. 723, No. 32.—*S. grisea*, id. p. 724, No. 33. TEMM. *Man. d' Orn.* p. 679. GMEL. *Syst.* p. 658, No. 27, adult in winter plumage. *S. noveboracensis*, Id. p. 658, No. 28, adult in summer plumage.

females, that had very little rufous below, and the backs were also much lighter, and less marbled with ferruginous. The eggs contained in their ovaries were some of them as large as garden peas. Their stomachs contained masses of those small snail shells that lie in millions on the salt marshes: the wrinkles at the base of the bill, and the red breast, are strong characters of this species, as also the membrane which unites the outer and middle toes together.

The Red-breasted Snipe is ten inches and a half long, and eighteen inches in extent; the bill is about two inches and a quarter in length, straight, grooved, black towards the point, and of a dirty eelskin color at the base, where it is tumid and wrinkled; lores dusky; cheeks and eyebrows pale yellowish white, mottled with specks of black; throat and breast a reddish buff color; sides white, barred with black; belly and vent white, the latter barred with dusky; crown, neck above, back, scapulars and tertials, black, edged, mottled and marbled with yellowish white, pale and bright ferruginous, much in the same manner as the common Snipe; wings plain olive, the secondaries centered and bordered with white; shaft of the first quill very white; rump, tail-coverts and tail (which consists of twelve feathers) white, thickly spotted with black; legs and feet dull yellowish green; outer toe united to the middle one by a small membrane; eye very dark. The female, which is paler on the back, and less ruddy on the breast, has been described by Mr. Pennant as a separate species.*

These birds doubtless breed not far to the northward of the United States, if we may judge from the lateness of the season when they leave us in spring; the largeness of the eggs in the ovaries of the females before they depart, and the short period of time they are absent. Of all our sea-side Snipes it is the most numerous, and the most delicious for the table.

From these circumstances and the crowded manner in which it flies and settles, it is the most eagerly sought after by our gunners, who send them to market in great numbers.

* See his Brown Snipe, *Arct. Zool.* No. 369.

SPECIES V. *SCOLOPAX SEMIPALMATA*.*

SEMIPALMATED SNIPE.

[Plate LVI. Fig. 3.]

Arct. Zool. p. 469, No. 380.†

THIS is one of the most noisy and noted birds that inhabit our salt marshes in summer. Its common name is the *Willet*, by which appellation it is universally known along the shores of New York, New Jersey, Delaware and Maryland, in all of which places it breeds in great numbers.

The Willet is peculiar to America. It arrives from the south, on the shores of the Middle States, about the twentieth of April, or beginning of May; and from that time to the last of July, its loud and shrill reiterations of *Pill-will-willet*, *Pill-will-willet*, resound, almost incessantly, along the marshes; and may be distinctly heard at the distance of more than half a mile. About the twentieth of May the Willets generally begin to lay.‡ Their nests are built on the ground, among the grass of the salt marshes, pretty well towards the land, or cultivated fields, and are composed of wet rushes and coarse grass, forming a slight hollow or cavity in a tussock. This nest is gradually increased during the period of laying and sitting, to the height of five or six inches. The eggs are usually four in number, very thick at the great end, and tapering to a narrower point at the other than those of the common hen; they measure two inches and one-eighth in length, by one and a half in their greatest breadth, and are of a dark dingy olive, largely blotched with blackish brown, particularly at the great end. In some the ground color has a tinge of green; in others of bluish. They are excellent eating, as I have often experienced when obliged to dine on them in my hunting excursions through the salt marshes. The young are covered with a gray colored down; run off soon after they leave the shell; and are led and assisted in their search of food by the mother; while the male keeps a continual watch around for their safety.

The anxiety and affection manifested by these birds for their eggs and

* This and the five following species belong to the genus *Totanus* of Bechstein.

† *Scolopax semipalmati*, LATH. *Syn.* III., p. 152., No. 22.—Id. *Ind. Orn.* p. 722, No. 27.—GMEL. *Syst.* I., p. 659, No. 331.

‡ From some unknown cause, the height of laying of these birds is said to be full two weeks later than it was twenty years ago.

young, are truly interesting. A person no sooner enter the marshes, than he is beset with the Willets, flying around and skimming over his head, vociferating with great violence their common cry of *Pill-will-willet*; and uttering at times a loud clicking note, as he approaches nearer to their nest. As they occasionally alight, and slowly shut their long white wings speckled with black, they have a mournful note, expressive of great tenderness. During the term of incubation, the female often resorts to the sea-shore, where, standing up to the belly in water, she washes and dresses her plumage, seeming to enjoy great satisfaction from these frequent immersions. She is also at other times seen to wade more in the water than most of her tribe; and when wounded in the wing, will take to the water without hesitation, and swims tolerably well.

The eggs of the Willet, in every instance which has come under my observation, are placed, during incubation, in an almost upright position, with the large end uppermost; and this appears to be the constant practice of several other species of birds that breed in these marshes. During the laying season, the Crows are seen roaming over the marshes in search of eggs, and wherever they come spread consternation and alarm among the Willets, who in united numbers attack, and pursue them with loud clamors. It is worthy of remark, that among the various birds that breed in these marshes, a mutual respect is paid to each other's eggs; and it is only from intruders from the land side, such as Crows, Jays, weasels, foxes, minxes and man himself, that these affectionate tribes have most to dread.

The Willet subsists chiefly on small shell-fish, marine worms, and other aquatic insects, in search of which it regularly resorts to the muddy shores, and flats, at low water; its general rendezvous being the marshes.

This bird has a summer, and also a winter, dress, in its colors differing so much in these seasons as scarcely to appear to be the same species. Our figure in the plate exhibits it in its spring and summer plumage, which in a good specimen is as follows:

Length fifteen inches, extent thirty inches; upper parts dark olive brown, the feathers streaked down the centre and crossed with waving lines of black; wing-coverts light olive ash; the whole upper parts sprinkled with touches of dull yellowish white; primaries black, white at the root half; secondaries white, bordered with brown; rump dark brown; tail rounded, twelve feathers, pale olive, waved with bars of black; tail-coverts white, barred with olive; bill pale lead color, becoming black towards the tip; eye very black; chin white; breast beautifully mottled with transverse spots of olive, on a cream ground; belly and vent white, the last barred with olive; legs and feet pale lead color; toes half-webbed.

Towards the fall, when these birds associate in large flocks, they be-

come of a pale dun color above, the plumage being shafted with dark brown, and the tail white, or nearly so. At this season they are extremely fat, and esteemed excellent eating. Experienced gunners always select the lightest colored ones from a flock, as being uniformly the fattest.

The female of this species is generally larger than the male. In the months of October and November they gradually disappear.

SPECIES VI. *SCOLOPAX VOCIFERUS*.

TELL-TALE GODWIT, OR SNIPE.

[Plate LVIII. Fig. 5.]

*Stone Snipe, Arct. Zool. p. 468, No. 376.—TURT. Syst. p. 396.**

THIS species, and the preceding, are both well known to our Duck-gunners, along the sea-coast and marshes, by whom they are detested, and stigmatized with the names of the greater and lesser *Tell-tale*, for their faithful vigilance in alarming the Ducks with their loud and shrill whistle, on the first glimpse of the gunner's approach. Of the two the present species is by far the most watchful; and its whistle, which consists of four notes rapidly repeated, is so loud, shrill and alarming, as instantly to arouse every Duck within its hearing, and thus disappoints the eager expectations of the shooter. Yet the cunning and experience of the latter, is frequently more than a match for all of them, and before the poor *Tell-tale* is aware, his warning voice is hushed for ever, and his dead body mingled with those of his associates.

This bird arrives on our coast early in April, breeds in the marshes, and continues until November, about the middle of which month it generally moves off to the south. The nest, I have been informed, is built in a tuft of thick grass, generally on the borders of a bog or morass. The female, it is said, lays four eggs, of a dingy white, irregularly marked with black.

These birds appear to be unknown in Europe. They are simply mentioned by Mr. Pennant, as having been observed in autumn, feeding on the sands on the lower part of Chatteaux Bay, continually nodding their heads; and were called there Stone Curlews.†

* *Scolopax melanoleuca*, GMEL. *Syst. i.*, p. 559, No. 32.—LATH. *Ind. Orn.* p. 723, No. 28.—*Spotted Snipe*, LATH. *Syn. iii.*, p. 149, var. A. *Totanus melanoleucos*, ORD, reprint, vii., p. 61.

† *Arct. Zool.* p. 468.

The *Tell-tale* seldom flies in large flocks, at least during summer. It delights in watery bogs, and the muddy margins of creeks and inlets; is either seen searching about for food, or standing in a watchful posture, alternately raising and lowering the head, and on the least appearance of danger utters its shrill whistle, and mounts on wing, generally accompanied by all the feathered tribes that are near. It occasionally penetrates inland, along the muddy shores of our large rivers, seldom higher than tide water, and then singly and solitary. They sometimes rise to a great height in the air, and can be distinctly heard when beyond the reach of the eye. In the fall, when they are fat, their flesh is highly esteemed, and many of them are brought to our markets. The colors and markings of this bird are so like those of the preceding, that unless in point of size, and the particular curvature of the bill, the description of one might serve for both.

The Tell-tale is fourteen inches and a half long, and twenty-five inches in extent; the bill is two inches and a quarter long, of a dark horn color, and slightly bent upwards; the space round the eye, chin and throat, pure white; lower part of the neck pale ashy white, speckled with black; general color of the upper parts an ashy brown, thickly spotted with black and dull white, each feather being bordered and spotted on the edge with black; wing quills black; some of the primaries, and all of the secondaries, with their coverts, spotted round the margins with black and white; head and neck above streaked with black and white; belly and vent pure white; rump white, dotted with black; tail also white, barred with brown; the wings, when closed, reach beyond the tail; thighs naked nearly two inches above the knees; legs two inches and three quarters long; feet four-toed, the outer joined by a membrane to the middle, the whole of a rich orange yellow. The female differs little in plumage from the male; sometimes the vent is slightly dotted with black, and the upper parts more brown.

Nature seems to have intended this bird as a kind of spy, or sentinel, for the safety of the rest; and so well acquainted are they with the watchful vigilance of this species, that, while it continues silent among them, the Ducks feed in the bogs and marshes without the least suspicion. The great object of the gunner is to escape the penetrating glance of this guardian, which is sometimes extremely difficult to effect. On the first whistle of the Tell-tale, if beyond gunshot, the gunner abandons his design, but not without first bestowing a few left-handed blessings on the author of his disappointment.

SPECIES VII. *SCOLOPAX FLAVIPES*.
YELLOW-SHANKS SNIPE.

[Plate LVIII. Fig. 4.]

Arct. Zool. p. 463, No. 878.—*TURT. Syst.* 395.*

OF this species I have but little to say. It inhabits our seacoasts, and salt marshes, during summer; frequents the flats at low water, and seems particularly fond of walking among the mud, where it doubtless finds its favorite food in abundance. Having never met with its nest, nor with any person acquainted with its particular place or manner of breeding, I must reserve these matters for further observation. It is a plentiful species, and great numbers are brought to market in Boston, New York, and Philadelphia, particularly in autumn. Though these birds do not often penetrate far inland, yet on the fifth of September I shot several dozens of them in the meadows of Schuylkill, below Philadelphia. There had been a violent north-east storm a day or two previous, and a large flock of these, accompanied by several species of *Tringa*, and a vast number of the Short-tailed Tern, appeared at once among the meadows. As a bird for the table the Yellow-shanks, when fat, is in considerable repute. Its chief residence is in the vicinity of the sea, where there are extensive mud-flats. It has a sharp whistle, of three or four notes, when about to take wing, and when flying. These birds may be shot down with great facility, if the sportsman, after the first discharge, will only lie close, and permit the wounded birds to flutter about without picking them up; the flock will generally make a circuit and alight repeatedly, until the greater part of them may be shot down.†

Length of the Yellow-shanks ten inches, extent twenty; bill slender, straight, an inch and a half in length, and black; line over the eye, chin, belly and vent, white; breast and throat gray; general color of the plumage above dusky brown olive, inclining to ash, thickly marked with small triangular spots of dull white; tail coverts white; tail also white, handsomely barred with dark olive; wings plain dusky, the

* Gmel. *Syst.* I., p. 659, No. 31.—Lath. *Syn.* III., p. 152, No. 24.—Ind. Orn. p. 723, No. 29.

† These birds are very common, in the early part of May, on the muddy flats of our rivers, particularly in the vicinity of Philadelphia, and are at that period in good condition.

secondaries edged, and all the coverts edged and tipped, with white; shafts black; eye also black; legs and naked thighs long and yellow; outer toe united to the middle one by a slight membrane; claws a horn color. The female can scarcely be distinguished from the male.

NOTE.—Mr. Ord in his reprint gives the following more minute description, of a female, shot on the twenty-second of April: "length upwards of ten inches, breadth twenty inches; irides brown; bill slender, straight, an inch and a half in length, and black, mandibles of equal length, the upper bent downwards at the tip; throat, lower parts, thighs, and under tail coverts, white—the last are generally marked on their exterior vanes with brown; those next to the tail barred with the same; lower part of the neck, with the breast, gray, the feathers streaked down their centres with dusky; head and back part of the neck black, the plumage edged with gray, in some specimens edged with brown ash, upper parts black, with oblong spots of white, intermixed with pale brown feathers; rump brown, edged with white; upper tail coverts white, barred with brown; the tail is composed of twelve feathers, white, barred with ashy brown, the upper feathers, in some, gray brown, marked on their vanes, though not across, with brown and white; wings, when closed, extend somewhat beyond the tail; primaries and secondaries dusky; shaft of first primary whitish above, the rest of the shafts brown above, in some black, all white below; lesser wing coverts dusky, slightly edged with white, and in some spotted with brown on the exterior vanes; secondaries slightly edged with white; legs bare above the knees upwards of an inch; length of tarsus two inches; outer toe connected as far as the first joint to the middle one, the membrane of the inner toe quite small; legs and feet yellow ochre; the claw of the middle toe has the appearance of having a supplemental nail at its base. A young male shot at the same time, had its upper parts mixed with cinereous."

GENUS LXXIII. TRINGA. SANDPIPER.

SPECIES I. *T. BARTRAMIA*.*

BARTRAM'S SANDPIPER.

[Plate LIX. Fig. 2.]

THIS bird being, as far as I can discover, a new species, undescribed by any former author, I have honored it with the name of my very worthy friend, near whose Botanic Gardens, on the banks of the river Schuylkill, I first found it. On the same meadows I have since shot several other individuals of the species, and have thereby had an opportunity of taking an accurate drawing, as well as description of it.

Unlike most of their tribe, these birds appeared to prefer running about among the grass, feeding on beetles, and other winged insects. There were three or four in company; they seemed extremely watchful, silent, and shy, so that it was always with extreme difficulty I could approach them.

These birds are occasionally seen there during the months of August and September; but whether they breed near, I have not been able to discover. Having never met with them on the seashore, I am persuaded that their principal residence is in the interior, in meadows, and such like places. They run with great rapidity, sometimes spreading their tail, and dropping their wings, as birds do who wish to decoy you from their nest; when they alight, they remain fixed, stand very erect, and have two or three sharp whistling notes as they mount to fly. They are remarkably plump birds, weighing upwards of three-quarters of a pound; their flesh is superior, in point of delicacy, tenderness and flavor, to any other of the tribe with which I am acquainted.

This species is twelve inches long, and twenty-one in extent; the bill is an inch and a half long, slightly bent downwards, and wrinkled at the base, the upper mandible black on its ridge, the lower, as well as the edge of the upper, of a fine yellow; front, stripe over the eye, neck and breast, pale ferruginous, marked with small streaks of black, which, on the lower part of the breast, assume the form of arrow heads; crown black, the plumage slightly skirted with whitish; chin, orbit of the eye, whole belly and vent, pure white; hind-head, and neck above, ferruginous, minutely streaked with black; back and scapulars black, the

* *Totanus Bartramius*, TEMM. *Man. d'Orn.* p. 650.

former slightly skirted with ferruginous, the latter with white; tertials black, bordered with white; primaries plain black; shaft of the exterior quill snowy, its inner vane elegantly pectinated with white; secondaries pale brown, spotted on their outer vanes with black, and tipped with white; greater coverts dusky, edged with pale ferruginous, and spotted with black; lesser coverts pale ferruginous, each feather broadly bordered with white, within which is a concentric semicircle of black; rump and tail-coverts deep brown black, slightly bordered with white; tail tapering, of a pale brown orange color, beautifully spotted with black, the middle feather centered with dusky; legs yellow, tinged with green; the outer toe joined to the middle by a membrane; lining of the wings elegantly barred with black and white; iris of the eye dark, or blue black, eye very large. The male and female are nearly alike.

NOTE.—Whether the bird described by Temminck (*Man. d'Orn.* p. 650), is identical with this species, will admit of some doubt; although this excellent ornithologist says, that “*les individus d'Europe et ceux d'Amerique ne different point.*” Bartram's Sandpiper is known to our shooters by the name of *Grass Plover*. It breeds in low grounds, in the state of New Jersey. When watching its nest, it is fond of sitting upon fences; and on alighting, it throws up its wings in the manner of the *Willet*. In the early part of August it begins to migrate; it then flies high, and may be easily recognised by its whistling notes, which resemble those of the *Tell-tale*. In the middle of June I observed this species in the vicinity of Burlington, New Jersey; but I could not discover its nest.—*G. Ord.*

SPECIES II. *TRINGA SOLITARIA*.*

SOLITARY SANDPIPER.

[Plate LVIII. Fig. 3.]

THIS new species inhabits the watery solitudes of our highest mountains during the summer, from Kentucky to New York; but is nowhere numerous, seldom more than one or two being seen together. It takes short low flights; runs nimbly about among the mossy margins of the mountain springs, brooks and pools, occasionally stopping, looking at you, and perpetually nodding the head. It is so unsuspicious, or so little acquainted with man, as to permit one to approach within a few yards of it, without appearing to take any notice, or to be the least alarmed. At the approach of cold weather, it descends to the muddy shores of our large rivers, where it is occasionally met with, singly, on its way to the south. I have made many long and close searches for the nest of this bird, without success. They regularly breed on Pocono Mountain, between Easton and Wilkesbarre, in Pennsylvania, arriving there early in May, and departing in September. It is usually silent, unless when suddenly flushed, when it utters a sharp whistle.

This species has considerable resemblance, both in manners and markings, to the Green Sandpiper of Europe (*Tringa Ochropus*); but differs from that bird in being nearly one-third less, and in wanting the white rump and tail-coverts of that species; it is also destitute of its silky olive green plumage. How far north its migrations extend I am unable to say.

The Solitary Sandpiper is eight inches and a half long, and fifteen inches in extent; the bill is one inch and a quarter in length and dusky; nostrils pervious, bill fluted above and below; line over the eye, chin, belly and vent, pure white; breast white, spotted with pale olive brown; crown and neck above dark olive, streaked with white; back, scapulars and rump, dark brown olive, each feather marked along the edges with small round spots of white; wings plain, and of a darker tint; under tail-covert spotted with black; tail slightly rounded, the five exterior feathers on each side white, broadly barred with black; the two middle ones, as well as their coverts, plain olive; legs long, slender, and of a dusky green. Male and female alike in color.

* *Totanus glareolus*, ORD's reprint, VII., p. 57.—*Totanus chloropygius*, VIEILL.—PRINCE MUSIGNANO, *Gen. N. A. Birds*.

SPECIES III. *TRINGA MACULARIA*.

SPOTTED SANDPIPER.

[Plate LIX. Fig. 1.]

Arct. Zool. p. 473, No. 385.—*La Grive d'eau*, BUFF. VIII., 140.—EDW. 277.*

THIS very common species arrives in Pennsylvania about the twentieth of April, making its first appearance along the shores of our large rivers, and, as the season advances, tracing the courses of our creeks and streams towards the interior. Along the rivers Schuylkill and Delaware, and their tributary waters, they are in great abundance during the summer. This species is as remarkable for perpetually wagging the tail, as some others are for nodding the head; for whether running on the ground, or on the fences, along the rails, or in the water, this motion seems continual; even the young, as soon as they are freed from the shell, run about constantly wagging the tail. About the middle of May they resort to the adjoining corn fields to breed, where I have frequently found and examined their nests. One of these, now before me, and which was built at the root of a hill of Indian corn, on high ground, is composed wholly of short pieces of dry straw. The eggs are four, of a pale clay or cream color, marked with large irregular spots of black, and more thinly with others of a paler tint. They are large in proportion to the size of the bird, measuring an inch and a quarter in length, very thick at the great end, and tapering suddenly to the other. The young run about with wonderful speed as soon as they leave the shell, and are then covered with down of a full drab color, marked with a single streak of black down the middle of the back, and with another behind each ear. They have a weak, plaintive note. On the approach of any person, the parents exhibit symptoms of great distress, counterfeiting lameness, and fluttering along the ground with seeming difficulty. On the appearance of a dog, this agitation is greatly increased; and it is very interesting to observe with what dexterity the female will lead him from her young, by throwing herself repeatedly before him, fluttering off, and keeping just without his reach, on a contrary direction from her helpless brood. My venerable friend, Mr. William Bartram,

* *Tringa macularia*, GMEL. *Syst.* 1., p. 672, No. 7.—LATH. *Ind. Orn.* p. 734, No. 29.—*Totanus macularius*, TEMM. *Man. d'Orn.* p. 656.

informs me, that he saw one of these birds defend her young, for a considerable time, from the repeated attacks of a ground squirrel. The scene of action was on the river shore. The parent had thrown herself, with her two young behind her, between them and the land; and at every attempt of the squirrel to seize them by a circuitous sweep, raised both her wings in an almost perpendicular position, assuming the most formidable appearance she was capable of, and rushed forwards on the squirrel, who, intimidated by her boldness and manner, instantly retreated; but presently returning, was met, as before, in front and on flank, by the daring and affectionate bird, who with her wings and whole plumage bristling up, seemed swelled to twice her usual size. The young crowded together behind her, apparently sensible of their perilous situation, moving backwards and forwards as she advanced or retreated. This interesting scene lasted for at least ten minutes; the strength of the poor parent began evidently to flag, and the attacks of the squirrel became more daring and frequent, when my good friend, like one of those celestial agents who, in Homer's time, so often decided the palm of victory, stepped forward from his retreat, drove the assailant back to his hole, and rescued the innocent from destruction.

The flight of this bird is usually low, skimming along the surface of the water, its long wings making a considerable angle downwards from the body, while it utters a rapid cry of *weet weet weet* as it flutters along, seldom steering in a direct line up or down the river, but making a long circuitous sweep, stretching a great way out, and gradually bending in again to the shore.

These birds are found occasionally along the sea marshes, as well as in the interior; and also breed in the corn fields there, frequenting the shore in search of food; but rarely associating with the other *Tringa*. About the middle of October they leave us on their way to the south, and do not, to my knowledge, winter in any of the Atlantic States.

Mr. Pennant is of opinion that this same species is found in Britain; but neither his description, nor that of Mr. Bewick, will apply correctly to this. The following particulars, with the figure, will enable Europeans to determine this matter to their satisfaction.

Length of the Spotted Sandpiper seven inches and a half, extent thirteen inches; bill an inch long, straight, the tip, and upper mandible, dusky, lower orange; stripe over the eye, and lower eyelid, pure white; whole upper parts a glossy olive, with greenish reflections, each feather marked with waving spots of dark brown; wing quills deep dusky; bastard wing bordered and tipped with white; a spot of white on the middle of the inner vane of each quill feather, except the first; secondaries tipped with white; tail rounded, the six middle feathers greenish olive, the other three, on each side, white, barred with black; whole lower parts white, beautifully marked with roundish spots of

black, small and thick on the throat and breast, larger and thinner as they descend to the tail; legs a yellow clay color; claws black.

The female is as thickly spotted below as the male; but the young birds, of both sexes, are pure white below, without any spots; they also want the orange on the bill. These circumstances I have verified on numerous individuals.

SPECIES IV. *TRINGA SEMIPALMATA*.

SEMIPALMATED SANDPIPER.

[Plate LXIII. Fig. 4.]

THIS is one of the smallest of its tribe; and seems to have been entirely overlooked, or confounded with another which it much resembles (*Tringa pusilla*), and with whom it is often found associated.

Its half-webbed feet, however, are sufficient marks of distinction between the two. It arrives and departs with the preceding species; flies in flocks with the Stints, Purres, and a few others; and is sometimes seen at a considerable distance from the sea, on the sandy shores of our fresh water lakes. On the twenty-third of September, I met with a small flock of these birds in Burlington Bay, on Lake Champlain. They are numerous along the seashores of New Jersey; but retire to the south on the approach of cold weather.

This species is six inches long, and twelve in extent; the bill is black, an inch long, and very slightly bent; crown and body above dusky brown, the plumage edged with ferruginous, and tipped with white; tail and wings nearly of a length; sides of the rump white; rump and tail-coverts black; wing quills dusky black, shafted and banded with white, much in the manner of the Least Snipe; over the eye a line of white; lesser coverts tipped with white; legs and feet blackish ash, the latter half-webbed. Males and females alike in color.

These birds varied greatly in their size, some being scarcely five inches and a half in length, and the bill not more than three-quarters; others measured nearly seven inches in the whole length, and the bill upwards of an inch. In their general appearance they greatly resemble the Stints or Least Snipe; but unless we allow that the same species may sometimes have the toes half-webbed, and sometimes divided to the origin, and this not in one or two solitary instances, but in whole flocks, which would be extraordinary indeed, we cannot avoid classing this as a new and distinct species.

SPECIES V. *TRINGA PUSILLA*.

LITTLE SANDPIPER.

[Plate XXXVII. Fig. 4.]

LATH. *Syn.* v., p. 184, 32.—*Arct. Zool.* II., No. 397.—*Cinclus dominicensis minor*,
BRISS. v., p. 222, 13, t. 25, f. 2.—TURT. *Syst.* 410.

THIS is the least of its tribe in this part of the world, and in its mode of flight has much more resemblance to the Snipe than to the Sandpiper. It is migratory, departing early in October for the south. It resides chiefly among the sea marshes, and feeds among the mud at low water; springs with a zigzag irregular flight, and a feeble twit. It is not altogether confined to the neighborhood of the sea, for I have found several of them on the shores of the Schuylkill, in the month of August. In October, immediately before they go away, they are usually very fat. Their nests or particular breeding places I have not been able to discover.

This minute species is found in Europe, and also at Nootka Sound on the western coast of America. Length five inches and a half; extent eleven inches; bill and legs brownish black; upper part of the breast gray brown, mixed with white; back and upper parts black; the whole plumage above broadly edged with bright bay and yellow ochre; primaries black; greater coverts the same, tipped with white; eye small, dark hazel; tail rounded, the four exterior feathers on each side dull white, the rest dark brown; tertials as long as the primaries; head above dark brown with paler edges; over the eye a streak of whitish; belly and vent white; the bill is thick at the base, and very slender towards the point; the hind toe small. In some specimens the legs were of a dirty yellowish color. Sides of the rump white; just below the greater coverts the primaries are crossed with white.

Very little difference could be perceived between the plumage of the males and females. The bay on the edges of the back, and scapulars, was rather brighter in the male, and the brown deeper.

SPECIES VI. *TRINGA ALPINA*.

RED-BACKED SANDPIPER.

[Plate LVI. Fig. 2.]

Dunlin, *Arct. Zool.* p. 476, No. 391.—BEWICK, II., p. 113.—*La Brunnette*, BUFF. VII., 493.*

THIS bird inhabits both the old and new continents, being known in England by the name of the Dunlin; and in the United States, along the shores of New Jersey, by that of the Red-back. Its residence here is but transient, chiefly in April and May, while passing to the arctic regions to breed; and in September and October, when on its return southward to winter quarters. During their stay they seldom collect in separate flocks by themselves; but mix with various other species of strand-birds, among whom they are rendered conspicuous by the red color of the upper part of their plumage. They frequent the muddy flats, and shores of the salt marshes, at low water, feeding on small worms and other insects which generally abound in such places. In the month of May they are extremely fat.

This bird is said to inhabit Greenland, Iceland, Scandinavia, the Alps of Siberia; and in its migrations the coasts of the Caspian Sea.† It has not, till now, been recognised by naturalists as inhabiting this part of North America. Wherever its breeding place may be, it probably begins to lay at a late period of the season, as in numbers of females which I examined on the first of June, the eggs were no larger than grains of mustard seed.

Length of the Red-back eight inches and a half, extent fifteen inches; bill black, longer than the head (which would seem to rank it with the Snipes), slightly bent, grooved on the upper mandible, and wrinkled at the base; crown, back and scapulars, bright reddish rust, spotted with black; wing-coverts pale olive; quills darker; the first tipped, the latter crossed, with white; front, cheeks, hind-head, and sides of the neck, quite round, also the breast, grayish white, marked with small specks of black; belly white, marked with a broad crescent of black; tail pale olive, the two middle feathers centered with black; legs and feet

* *Tringa alpina*, LATH. *Ind. Orn.* 736, No. 37.—*Le Cincle*, BUFF. *Pl. Enl.* 852.

† Pennant.

ashy black; toes divided to their origin, and bordered with a slightly scalloped membrane; irides very dark.

The males and females are nearly alike in one respect, both differing greatly in color even at the same season, probably owing to difference of age; some being of a much brighter red than others, and the plumage dotted with white. In the month of September, many are found destitute of the black crescent on the belly; these have been conjectured to be young birds.

NOTE.—After an attentive examination of many of these birds on the coast of Cape May, in the month of April, I am perfectly convinced, that the hitherto supposed two species, the present and the Purre, constitute but one species, the latter being in immature plumage. In some instances, I found the Purres were beginning to get the broad band of black on the belly, and the black thickening with ruddy feathers, appearing almost perfect Black-bellied Sandpipers.—*Wilson's MSS.*

TRINGA CINCLUS.*

THE PURRE.

[Plate LVII. Fig. 3.]

LINN. *Syst.* 251.—*Arct. Zool.* p. 475, No. 390.—BEWICK, II., p. 115.—*L'Alouette de mer*, BUFF. VII., 548.

THIS is one of the most numerous of our *Strand-birds*, as they are usually called, that frequent the sandy beach, on the frontiers of the ocean. In its habit it differs so little from the preceding, that, except in being still more active and expert in running, and searching among the sand, on the reflux of the waves, as it nimbly darts about for food, what has been said of the former will apply equally to both, they being pretty constant associates on these occasions.

The Purre continues longer with us both in spring and autumn than either of the two preceding; many of them remain during the very severest of the winter, though the greater part retire to the more genial regions of the south; where I have seen them at such seasons, particularly on the seacoasts of both Carolinas, during the month of February, in great numbers.

These birds, in conjunction with several others, sometimes collect together in such flocks, as to seem, at a distance, a large cloud of thick

* The preceding species in immature plumage.

smoke, varying in form and appearance every instant, while it performs its evolutions in air. As this cloud descends, and courses along the shores of the ocean, with great rapidity, in a kind of waving serpentine flight, alternately throwing its dark and white plumage to the eye, it forms a very grand and interesting appearance. At such times the gunners make prodigious slaughter among them; while, as the showers of their companions fall, the whole body often alight, or descend to the surface with them, till the sportsman is completely satiated with destruction. On some of those occasions, while crowds of these victims are fluttering along the sand, the small Pigeon Hawk, constrained by necessity, ventures to make a sweep among the dead, in presence of the proprietor, but as suddenly pays for his temerity with his life! Such a tyrant is man, when vested with power, and unrestrained by the dread of responsibility!

The Purre is eight inches in length, and fifteen inches in extent; the bill is black, straight, or slightly bent downwards, about an inch and a half long, very thick at the base, and tapering to a slender blunt point at the extremity; eye very small, iris dark hazel; cheeks gray; line over the eye, belly and vent, white; back and scapulars of an ashy brown, marked here and there with spots of black, bordered with bright ferruginous; sides of the rump white; tail-coverts olive, centered with black; chin white; neck below gray; breast and sides thinly marked with pale spots of dusky, in some pure white; wings black, edged and tipped with white; two middle tail feathers dusky, the rest brown ash, edged with white; legs and feet black; toes bordered with a very narrow scalloped membrane. The usual broad band of white crossing the wing, forms a distinguishing characteristic of almost the whole genus.

On examining more than a hundred of these birds, they varied considerably in the black and ferruginous spots on the back and scapulars; some were altogether plain, while others were thickly marked, particularly on the scapulars, with a red rust color, centered with black. The females were uniformly more plain than the males; but many of the latter, probably young birds, were destitute of the ferruginous spots. On the twenty-fourth of May, the eggs in the females were about the size of partridge shot. In what particular regions of the north these birds breed, is altogether unknown.

SPECIES VII. *TRINGA RUFA*.

RED-BREASTED SANDPIPER.

[Plate LVII. Fig. 5.]

OF this prettily marked species I can find no description. The *Tringa Islandica*, or Aberdeen Sandpiper of Pennant and others, is the only species that has any resemblance to it; the descriptions of that bird, however, will not apply to the present. *

The common name of this species, on our seacoast, is the *Gray-back*, and among the gunners it is a particular favorite, being generally a plump, tender, and excellent bird for the table; and, consequently, brings a good price in market.

The Gray-backs do not breed on the shores of the Middle States. Their first appearance is early in May. They remain a few weeks, and again disappear until October. They usually keep in small flocks, alight in a close body together on the sand flats, where they search for the small bivalve shells already described. On the approach of the sportsman, they frequently stand fixed and silent for some time; do not appear to be easily alarmed, neither do they run about in the water as much as some others, or with the same rapidity, but appear more tranquil and deliberate. In the month of November they retire to the south.

This species is ten inches long, and twenty in extent; the bill is black, and about an inch and a half long; the chin, eyebrows, and whole breast, a pale brownish orange color; crown, hindhead, from the upper mandible backwards, and neck, dull white, streaked with black; back a

* This appears to be an error. This species is probably no other than the *Tringa Islandica* in summer dress; and as many nominal species have been made of it, we quote the following synonyms from Prince Musignano's observations, Journal Acad. Nat. Sc. Phila. vol. v., p. 93.—"*Tringa alpina*, LINN. GMEL. LATH.—*TRINGA cinclus*, LINN. BRISS. GMEL. LATH. winter plumage.—*TRINGA ruficollis*, GMEL. LATH. spring moulting.—*SCOLOPAX pusilla*? GMEL. (moulting). Is it not rather *T. schinzii*, Brehm?—*TRINGA cinclus torquatus*, BRISS. moulting.—*SCOLOPAX gallinago anglicana*? BRISS. moulting. Is it not rather *T. schinzii*?—*TRINGA variabilis*, MEYER, TEMM. SABINE.—*Le Cincle*, BUFF. Pl. Enl. 852, moulting.—*L'Alouette de mer*? BUFF. Pl. Enl. 851, moulting. With Vieillot we do not think this plate intended for *TRINGA subarquata*, TEMM., as it is thought by Meyer and Temminck."

pale slaty olive, the feathers tipped with white, barred and spotted with black and pale ferruginous; tail-coverts white, elegantly barred with black; wings plain dusky, black towards the extremity; the greater coverts tipped with white; shafts of the primaries white; tail pale ashy olive, finely edged with white, the two middle feathers somewhat the longest; belly and vent white, the latter marked with small arrow-heads of black; legs and feet black; toes bordered with a narrow membrane; eye small and black.

In some specimens, both of males and females, the red on the breast was much paler, in others it descended as far as the thighs. Both sexes seemed nearly alike.

TRINGA CINEREA.*

ASH-COLORED SANDPIPER.

[Plate LVII. Fig. 2.]

Arct. Zool. p. 474, No. 386.—BEWICK, II., p. 102.

THE regularly disposed concentric semicircles of white and dark brown that mark the upper parts of the plumage of this species, distinguish it from all others, and give it a very neat appearance. In activity it is superior to the preceding; and traces the flowing and recession of the waves along the sandy beach, with great nimbleness, wading and searching among the loosened particles for its favorite food, which is a small thin oval bivalve shell-fish, of a white or pearl color, and not larger than the seed of an apple. These usually lie at a short depth below the surface; but in some places are seen at low water in heaps, like masses of wet grain, in quantities of more than a bushel together. During the latter part of summer and autumn, these minute shell-fish constitute the food of almost all those busy flocks, that run with such activity along the sands, among the flowing and retreating waves. They are universally swallowed whole; but the action of the bird's stomach, assisted by the shells themselves, soon reduces them to a pulp. If we may judge from their effects, they must be extremely nutritious, for almost all those tribes that feed on them are at this season mere lumps of fat. Digging for these in the hard sand would be a work of considerable labor, whereas when the particles are loosened by the flowing of the sea, the birds collect them with great ease and dexterity. It is amusing to observe with what adroitness they follow

* This is the preceding species in winter dress, according to Prince Musignano.¹

and elude the tumbling surf, while at the same time they seem wholly intent on collecting their food.

The Ash-colored Sandpiper, the subject of our present account, inhabits both Europe and America. It has been seen in great numbers on the Seal Islands near Chatteaux Bay; is said to continue the whole summer in Hudson's Bay, and breeds there. Mr. Pennant suspects that it also breeds in Denmark; and says that they appear in vast flocks on the Flintshire shores, during the winter season.* With us they are also migratory, being only seen in spring and autumn. They are plump birds; and by those accustomed to the sedgy taste of this tribe, are esteemed excellent eating.

The length of this species is ten inches, extent twenty; bill black, straight, fluted to nearly its tip, and about an inch and a half long; upper parts brownish ash, each feather marked near the tip with a narrow semicircle of dark brown, bounded by another of white; tail-coverts white, marbled with olive; wing quills dusky, shafts white; greater coverts black, tipped with white; some of the primaries edged also with white; tail plain pale ash, finely edged and tipped with white; crown and hind-head streaked with black, ash and white; stripe over the eye, cheeks and chin, white, the former marked with pale streaks of dusky, the latter pure; breast white, thinly speckled with blackish; belly and vent pure white; legs a dirty yellowish clay color; toes bordered with a narrow thick warty membrane; hind-toe directed inwards, as in the Turn-stone; claws and eye black.

These birds vary a little in color, some being considerably darker above, others entirely white below; but, in all, the concentric semicircles on the back, scapulars, and wing-coverts, are conspicuous.

I think it probable that these birds become much lighter colored during the summer, from the circumstance of having shot one late in the month of June, at Cape May, which was of a pale drab or dun color. It was very thin and emaciated; and on examination appeared to have been formerly wounded, which no doubt occasioned its remaining behind its companions.

Early in December I examined the same coast every day for nearly two weeks, without meeting with more than one solitary individual of this species; although in October they were abundant. How far to the southward they extend their migrations, we have no facts that will enable us to ascertain; though it is probable that the shores of the West India Islands afford them shelter and resources during our winter.

* Arct. Zool. p. 474.

SPECIES VIII. *TRINGA INTERPRES*.*

TURN-STONE.

[Plate LVII. Fig. 1.]

Hebridal Sandpiper, *Arct. Zool.* p. 472, No. 382.—*Le Tournepierrre*, *BUFF.* VII., 130.
Pl. Enl. 130.—BEWICK, II., p. 119, 121.—CATESBY, I., 72.

THIS beautifully variegated species is common to both Europe and America; consequently extends its migrations far to the north. It arrives from the south, on the shores of New Jersey, in April; leaves them early in June; is seen on its return to the south in October; and continues to be occasionally seen until the commencement of the cold weather, when it disappears for the season. It is rather a scarce species in this part of the world,† and of a solitary disposition; seldom mingling among the large flocks of other Sandpipers; but either coursing the sands alone, or in company with two or three of its own species. On the coast of Cape May and Egg Harbor, this bird is well known by the name of the *Horse-foot Snipe*, from its living, during the months of May and June, almost wholly on the eggs or spawn of the great King Crab, called here, by the common people, the *Horse-foot*. This animal is the *Monoculus polyphemus* of entomologists. Its usual size is from twelve to fifteen inches in breadth, by two feet in length; though sometimes it is found much larger. The head, or forepart, is semicircular, and convex above, covered with a thin elastic shelly case. The lower side is concave, where it is furnished with feet and claws resembling those of a crab. The posterior extremity consists of a long, hard, pointed, dagger-like tail, by means of which, when overset by the waves, the animal turns itself on its belly again. The male may be distinguished from the female by his two large claws having only a single hook each, instead of the forceps of the female. In the Bay of Delaware, below Egg Island, and in what is usually called Maurice River Cove, these creatures seem to have formed one of their principal settlements. The bottom of this cove is generally a soft mud, extremely well suited to their accommodation.

* This bird belongs to the genus *Strepsilas* of Illiger; it is the only species of the genus known; and is found in almost every quarter of the world.

† This species is now found in great abundance on the coast of New Jersey; and becomes excessively fat, in the month of May.

Here they are resident, burying themselves in the mud during the winter, but early in the month of May they approach the shore in multitudes, to obey the great law of nature, in depositing their eggs within the influence of the sun, and are then very troublesome to the fishermen, who can scarcely draw a seine for them, they are so numerous. Being of slow motion, and easily overset by the surf, their dead bodies cover the shore in heaps, and in such numbers, that for ten miles one might walk on them without touching the ground.

The hogs from the neighboring country are regularly driven down, every spring, to feed on them, which they do with great avidity; though by this kind of food their flesh acquires a strong disagreeable fishy taste. Even the small turtles, or terrapins, so eagerly sought after by our epicures, contract so rank a taste by feeding on the spawn of the king crab, as to be at such times altogether unpalatable. This spawn may sometimes be seen lying in hollows and eddies in bushels; while the Snipes and Sandpipers, particularly the Turn-stone, are hovering about, feasting on the delicious fare. The dead bodies of the animals themselves are hauled up in wagons for manure, and when placed at the hills of corn, in planting time, are said to enrich the soil, and add greatly to the increase of the crop.

The Turn-stone derives its name from another singularity it possesses, of turning over, with its bill, small stones and pebbles in search of various marine worms and insects. At this sort of work it is exceedingly dexterous; and even when taken and domesticated, is said to retain the same habit.* Its bill seems particularly well constructed for this purpose, differing from all the rest of its tribe, and very much resembling, in shape, that of the common Nuthatch. We learn from Mr. Pennant, that these birds inhabit Hudson's Bay, Greenland, and the arctic flats of Siberia, where they breed, wandering southerly in autumn. It is said to build on the ground, and to lay four eggs, of an olive color spotted with black; and to inhabit the isles of the Baltic during summer.

The Turn-stone flies with a loud twittering note, and runs with its wings lowered; but not with the rapidity of others of its tribe. It examines more completely the same spot of ground, and, like some of the Woodpeckers, will remain searching in the same place, tossing the stones and pebbles from side to side for a considerable time.

These birds vary greatly in color, scarcely two individuals are to be found alike in markings. These varieties are most numerous in autumn, when the young birds are about, and are less frequently met with in spring. The most perfect specimens I have examined are as follows:

Length eight inches and a half, extent seventeen inches; bill black-

* Catesby.

ish horn; frontlet, space passing through the eyes, and thence dropping down, and joining the under mandible, black, enclosing a spot of white; crown white, streaked with black; breast black, whence it turns up half across the neck; behind the eye a spot of black; upper part of the neck white, running down and skirting the black breast, as far as the shoulder; upper part of the back black, divided by a strip of bright ferruginous; scapulars black, glossed with greenish, and interspersed with rusty red; whole back below this pure white, but hid by the scapulars; rump black; tail-coverts white; tail rounded, white at the base half, thence black to the extremity; belly and vent white; wings dark dusky, crossed by two bands of white; lower half of the lesser coverts ferruginous; legs and feet a bright vermilion, or red lead; hind toe standing inwards, and all of them edged with a thick warty membrane. The male and female are alike variable; and when in perfect plumage nearly resemble each other.

Bewick, in his *History of British Birds*, has figured and described what he considers to be two species of Turn-stone; one of which, he says, is chiefly confined to the southern, and the other to the northern parts of Great Britain. The difference, however, between these two appears to be no greater than commonly occurs among individuals of the same flock, and evidently of the same species, in this country. As several years probably elapse before these birds arrive at their complete state of plumage, many varieties must necessarily appear, according to the different ages of the individuals.

GENUS LXXIV. CHARADRIUS. PLOVER.

SPECIES I. *C. HIATICULA*.

RINGED PLOVER.*

[Plate XXXVII. Fig. 3.†]

LATH. *Syn.* v., p. 201, 8.—*Arct. Zool.* II., No. 401.—*Petit Pluvier, à collier*, BUFF. VIII., p. 90-6.—*Pl. Enl.* 921.—*Pluvialis Torquata minor*, BRISS. v., p. 63, 8, t. 5, f. 2.—TURT. *Syst.* p. 411, 2.

It was not altogether consistent with my original plan to introduce any of the Grallæ or Waders, until I had advanced nearer to a close with the Land Birds; but as the scenery here seemed somewhat appropriate, I have taken the liberty of placing in it two birds, reduced to one-third of their natural size, both being *varieties* of their respective species, each of which will appear in their proper places, in some future volume of this work, in full size and in their complete plumage.

The Ring Plover is very abundant on the low sandy shores of our whole seacoast, during summer. They run, or rather seem to glide, rapidly along the surface of the flat sands; frequently spreading out their wings and tail like a fan, and fluttering along, to draw or entice one away from their nests. These are formed with little art; being merely shallow concavities dug in the sand, in which the eggs are laid, and, during the day at least, left to the influence of the sun to hatch them. The parents, however, always remain near the spot to protect them from injury, and probably in cold rainy or stormy weather, to shelter them with their bodies. The eggs are three, sometimes four, large for the bird, of a dun clay color, and marked with numerous small spots of reddish purple.

The voice of these little birds, as they move along the sand, is soft and musical, consisting of a single plaintive note occasionally repeated. As you approach near their nests, they seem to court your attention,

* Wilson in his account of the following species gives reasons for supposing this bird to be specifically different from the Ring Plover of Plate LIX. It is undoubtedly a distinct species; and has been named by Mr. Ord, Piping Plover—*C. Melodus*. The synonymes given by our author do not of course apply to this species.

† Adult in spring dress.

and the moment they think you observe them, they spread out their wings and tail, dragging themselves along, and imitating the squeaking of young birds; if you turn from them they immediately resume their proper posture until they have again caught your eye, when they display the same attempts at deception as before. A flat dry sandy beach, just beyond the reach of the summer tides, is their favorite place for breeding.

This species is subject to great variety of change in its plumage. In the month of July I found most of those that were breeding on Sommers's Beach, at the mouth of Great Egg Harbor, such as I have here figured; but about the beginning or middle of October they had become much darker above, and their plumage otherwise varied. They were then collected in flocks; their former theatrical and deceptive manœuvres seemed all forgotten. They appeared more active than before, as well as more silent; alighting within a short distance of one, and feeding about without the least appearance of suspicion. At the commencement of winter they all go off towards the south.

This variety of the Ringed Plover is seven inches long, and fourteen in extent; the bill is reddish yellow for half its length, and black at the extremity; the front and whole lower parts pure white, except the side of the breast, which is marked with a curving streak of black, another spot of black bounding the front above; back and upper parts very pale brown, inclining to ashy white, and intermixed with white; wings pale brown, greater coverts broadly tipped with white; interior edges of the secondaries, and outer edges of the primaries white, and tipped with brown; tail nearly even, the lower half white, brown towards the extremity, the outer feather pure white, the next white with a single spot of black; eye black, and full, surrounded by a narrow ring of yellow; legs reddish yellow; claws black; lower side of the wings pure white.

SPECIES II. *C. HIATICULA*.*

RING PLOVER.

[Plate LIX. Fig. 3.]

Arct. Zool. p. 485, No. 401.—*La petit Pluvier à collier*, BUFF. VIII., 90.—BEWICK, I., 326.†

IN a preceding part of this work‡ a bird by this name has been figured and described, under the supposition that it was the Ring Plover, then in its summer dress; but which, notwithstanding its great resemblance to the present, I now suspect to be a different species. Fearful of perpetuating error, and anxious to retract, where this may inadvertently have been the case, I shall submit to the consideration of the reader the reasons on which my present suspicions are founded.

The present species, or true Ring Plover, and also the former, or light colored bird, both arrive on the seacoast of New Jersey late in April. The present kind continues to be seen in flocks until late in May, when they disappear on their way farther north; the light colored bird remains during the summer, forms its nest in the sand, and generally produces two broods in the season. Early in September the present species returns in flocks as before; soon after this, the light colored kind go off to the south, but the other remain a full month later. European writers inform us, that the Ring Plover has a sharp twittering note, and this account agrees exactly with that of the present; the light colored species, on the contrary, has a peculiarly soft and musical note, similar to the tone of a German flute, which it utters while running along the sand, with expanded tail, and hanging wings, endeavoring to decoy you from its nest. The present species is never seen to breed here; and though I have opened great numbers of them as late as the twentieth of May, the eggs, which the females contained, were never larger than small bird-shot; while, at the same time, the light colored kind had everywhere begun to lay in the little cavities which they had dug on the

* *Tringa hiaticula*, in the original edition, which with Prince Musignano, we consider as a typographical error.

† *Charadrius semipalmatus*, BONAPARTE, *Ann. Lyc. Nat. Hist. N. Y.* Vol. II., p. 296.

‡ See preceding species.

sand, on the beach. These facts being considered, it seems difficult to reconcile such difference of habit in one and the same bird. The Ring Plover is common in England, and agrees exactly with the one before us; but the light colored species, as far as I can learn, is not found in Britain; specimens of it have indeed been taken to that country, where the most judicious of their ornithologists have concluded it to be still the Ring Plover, but to have changed from the effect of climate. Mr. Pennant, in speaking of the true Ring Plover, makes the following remarks: "Almost all which I have seen from the northern parts of North America have had the black marks extremely faint, and almost lost. The climate had almost destroyed the specific marks; yet in the bill and habit preserved sufficient to make the kind very easily ascertained." These traits agree exactly with the light colored species described in our fifth volume. But this excellent naturalist was perhaps not aware that we have the true Ring Plover here in spring and autumn, agreeing in every respect with that of Britain, and at least in equal numbers; why, therefore, has not the climate equally affected the present and the former sort, if both are the same species? These inconsistencies cannot be reconciled but by supposing each to be a distinct species, which, though approaching extremely near to each other, in external appearance, have each their peculiar notes, color, and places of breeding.

The Ring Plover is seven inches long, and fourteen inches in extent; bill short, orange colored, tipped with black, front and chin white, encircling the neck; upper part of the breast black; rest of the lower parts pure white; fore part of the crown black; band from the upper mandible, covering the auriculars, also black; back, scapulars, and wing-coverts, of a brownish ash color; wing quills dusky black, marked with an oval spot of white about the middle of each; tail olive, deepening into black, and tipped with white; legs dull yellow; eye dark hazel, eyelids yellow.

This bird is said to make no nest, but to lay four eggs, of a pale ash color, spotted with black, which she deposits on the ground.* The eggs of the light colored species, formerly described, are of a pale cream color, marked with small round dots of black, as if done with a pen.

The Ring Plover, according to Pennant, inhabits America, down to Jamaica and the Brazils. Is found in summer in Greenland; migrates thence in autumn. Is common in every part of Russia and Siberia. Was found by the navigators as low as Owyhee, one of the Sandwich Islands, and as light colored as those of the highest latitudes.†

* Bewick.

† Arct. Zool. p. 485.

SPECIES III. *CHARADRIUS WILSONIUS*.

WILSON'S PLOVER.

[Plate LXXIII. Fig. 5.]

OF this neat and prettily marked species I can find no account, and have concluded that it has hitherto escaped the eye of the naturalist. The bird, of which the figure in the plate is a correct resemblance, was shot the thirteenth of May, 1813, on the shore of Cape Island, New Jersey, by my ever-regretted friend; and I have honored it with his name. It was a male, and was accompanied by another of the same sex, and a female, all of which were fortunately obtained.

This bird very much resembles the Ring Plover, except in the length and color of the bill, its size, and in wanting the yellow eyelids. The males and females of this species differ in their markings, but the Ring Plovers nearly agree. We conversed with some sportsmen of Cape May, who asserted that they were acquainted with these birds, and that they sometimes made their appearance in flocks of considerable numbers; others had no knowledge of them. That the species is rare, we were well convinced, as we had diligently explored the shore of a considerable part of Cape May, in the vicinity of Great Egg Harbor, many times, at different seasons, and had never seen them before. How long they remain on our coast, and where they winter, we are unable to say. From the circumstance of the oviduct of the female being greatly enlarged, and containing an egg half grown, apparently within a week of being ready for exclusion, we concluded that they breed there. Their favorite places of resort appear to be the dry sand flats on the seashore. They utter an agreeable piping note; and run swiftly.

This species is eight inches in length, and fifteen and a half in extent; the bill is black, stout, and an inch long, the upper mandible projecting considerably over the lower; front white, passing on each side to the middle of the eye above, and bounded by a band of black of equal breadth; lores black; eyelids white; eye large and dark; from the middle of the eye, backwards, the stripe of white becomes duller, and extends for half an inch; the crown, hind head and auriculars, are drab olive; the chin, throat, and sides of the neck for an inch, pure white, passing quite round the neck, and narrowing to a point behind; the upper breast below this is marked with a broad band of jet

black; the rest of the lower parts pure white; upper parts pale olive drab; along the edges of the auriculars, and hind head, the plumage, where it joins the white, is stained with raw terra sienna; all the plumage is darkest in the centre; the tertials are fully longer than the primaries, the latter brownish black, the shafts and edges of some of the middle ones white; secondaries, and greater coverts, slightly tipped with white; the legs are of a pale flesh color; toes bordered with a narrow edge; claws and ends of the toes black; the tail is even, a very little longer than the wings, and of a blackish olive color, with the exception of the two exterior feathers, which are whitish, but generally only the two middle ones are seen.

The female differs in having no black on the forehead, lores, or breast, these parts being pale olive.*

Since publishing the foregoing, Mr. T. R. Peale and myself, in an excursion, in the month of May, on the coast of New Jersey, found this species to be pretty common, in the vicinity of Brigantine Beach. We also observed them in various places between Great Egg Harbor and Long Beach.—*G. Ord.*

SPECIES IV. *CHARADRIUS VOCIFERUS*

KILDEER PLOVER.

[Plate LIX. Fig. 6.]

Arct. Zool. No. 400.—CATESBY, I., 71.—*Le Kildir*, BUFF. VIII., 96.†

THIS restless and noisy bird is known to almost every inhabitant of the United States, being a common and pretty constant resident. During the severity of winter, when snow covers the ground, it retreats to the seashore, where it is found at all seasons; but no sooner have the rivers broken up, than its shrill note is again heard, either roaming about high in air, tracing the shore of the river, or running amidst the watery flats and meadows. As spring advances, it resorts to the newly ploughed fields, or level plains bare of grass, interspersed with shallow pools; or, in the vicinity of the sea, dry bare sandy fields. In some such situation it generally chooses to breed, about the beginning of May. The nest is usually slight, a mere hollow, with such materials drawn in around it

* From Mr. Ord's supplementary volume.

† *Charadrius vociferus*, GMEL. *Syst.* I., p. 685, No. 3.—*Pluvier à collier de Virginie*, BRISS. V., p. 68.—LATH. *Ind. Orn.* p. 742, No. 6.—*Pl. Enl.* 286.

as happen to be near, such as bits of sticks, straw, pebbles, or earth. In one instance, I found the nest of this bird paved with fragments of clam and oyster shells, and very neatly surrounded with a mound or border of the same, placed in a very close and curious manner. In some cases there is no vestige whatever of a nest. The eggs are usually four, of a bright rich cream, or yellowish clay color, thickly marked with blotches of black. They are large for the size of the bird, measuring more than an inch and a half in length, and a full inch in width, tapering to a narrow point at the great end.

Nothing can exceed the alarm and anxiety of these birds during the breeding season. Their cries of *kildeer, kildeer*, as they winnow the air over head, dive and course around you, or run along the ground counterfeiting lameness, are shrill and incessant. The moment they see a person approach, they fly or run to attack him with their harassing clamor, continuing it over so wide an extent of ground, that they puzzle the pursuer as to the particular spot where the nest or young are concealed; very much resembling, in this respect, the Lapwing of Europe. During the evening, and long after dusk, particularly in moonlight, their cries are frequently heard with equal violence, both in the spring and fall. From this circumstance, and their flying about both after dusk, and before dawn, it appears probable that they see better at such times than most of their tribe. They are known to feed much on worms, and many of these rise to the surface during the night. The prowling of Owls may also alarm their fears for their young at those hours; but whatever may be the cause, the facts are so.

The Kildeer is more abundant in the Southern States in winter than in summer. Among the rice fields, and even around the planters' yards in South Carolina, I observed them very numerous, in the months of February and March. There the negro boys frequently practise the barbarous mode of catching them with a line, at the extremity of which is a crooked pin, with a worm on it. Their flight is something like that of the Tern, but more vigorous; and they sometimes rise to a great height in the air. They are fond of wading in pools of water; and frequently bathe themselves during the summer. They usually stand erect on their legs, and run or walk with the body in a stiff horizontal position; they run with great swiftness, and are also strong and vigorous in the wings. Their flesh is eaten by some, but is not in general esteem, though others say, that in the fall, when they become very fat, it is excellent.

During the extreme droughts of summer, these birds resort to the gravelly channel of brooks and shallow streams, where they can wade about in search of aquatic insects. At the close of summer they generally descend to the seashore, in small flocks, seldom more than ten or

twelve being seen together. They are then more serene and silent, as well as difficult to be approached.

The Kildeer is ten inches long, and twenty inches in extent; the bill is black; frontlet, chin, and ring round the neck, white; fore part of the crown, and auriculars from the bill backwards, blackish olive; eyelids bright scarlet; eye very large, and of a full black; from the centre of the eye backwards a stripe of white; round the lower part of the neck is a broad band of black; below that a band of white, succeeded by another rounding band or crescent of black; rest of the lower parts pure white; crown and hind-head light olive brown; back, scapulars, and wing-coverts, olive brown, skirted with brownish yellow; primary quills black, streaked across the middle with white; bastard wing tipped with white; greater coverts broadly tipped with white; rump and tail-coverts orange; tail tapering, dull orange, crossed near the end with a broad bar of black, and tipped with orange, the two middle feathers near an inch longer than the adjoining ones; legs and feet a pale light clay color. The tertials, as usual in this tribe, are very long, reaching nearly to the tips of the primaries; exterior toe joined by a membrane to the middle one, as far as the first joint.

SPECIES V. *CHARADRIUS PLUVIALIS*

GOLDEN PLOVER.

[Plate LIX. Fig. 5.]

Arct. Zool. p. 493, No. 399.—BEWICK, I., 322.—*Le Pluvier doré*, BUFF. VIII., 81.—*Pl. Enl.* 904.*

THIS beautiful species visits the seacoast of New York and New Jersey in spring and autumn; but does not, as far as I can discover, breed in any part of the United States. They are most frequently met with in the months of September and October; soon after which they disappear. The young birds of the great Black-bellied Plover are sometimes mistaken for this species. Hence the reason why Mr. Pennant

* We add the following synonymes from Prince Musignano's "Observations:"—*Charadrius pluvialis*, LINN. GMEL. LATH. winter dress. TEMM. VIEILL.—*Charadrius apricarius*, LINN. GMEL. LATH. summer dress, (not of Wilson, which is a four-toed bird, *Vanellus helveticus*.)—*Pluvialis aurea*, BRISS. winter dress.—*Pluvialis aurea minor*, BRISS. winter dress.—*Pluvialis dominicensis aurea*, BRISS. winter dress.—*Pluvialis aurea Freti Hudsonis*, BRISS. summer dress.—*Le Pluvier d'or*, BUFF. *Pl. Enl.* 904, winter dress.

remarks his having seen a variety of the Golden Plover, with black breasts, which he supposed to be the young.*

The Golden Plover is common in the northern parts of Europe. It breeds on high and heathy mountains. The female lays four eggs, of a pale olive color, variegated with blackish spots. They usually fly in small flocks, and have a shrill whistling note. They are very frequent in Siberia, where they likewise breed; extend also to Kamtschatka, and as far south as the Sandwich Isles. In this latter place, Mr. Pennant remarks, "they are very small."

Although these birds are occasionally found along our seacoast, from Georgia to Maine, yet they are nowhere numerous; and I have never met with them in the interior. Our mountains being generally covered with forest, and no species of heath having, as yet, been discovered within the boundaries of the United States, these birds are probably induced to seek the more remote arctic regions of the continent to breed and rear their young in, where the country is more open, and unencumbered with woods.

The Golden Plover is ten inches and a half long, and twenty-one inches in extent; bill short, of a dusky slate color; eye very large, blue black; nostrils placed in a deep furrow, and half covered with a prominent membrane; whole upper parts black, thickly marked with roundish spots of various tints of golden yellow; wing-coverts, and hind part of the neck, pale brown, the latter streaked with yellowish; front, broad line over the eye, chin, and sides of the same, yellowish white, streaked with small pointed spots of brown olive; breast gray, with olive and white; sides under the wings marked thinly with transverse bars of pale olive; belly and vent white; wing quills black, the middle of the shafts marked with white; greater coverts black, tipped with white; tail rounded, black, barred with triangular spots of golden yellow; legs dark dusky slate; feet three-toed, with generally the slight rudiments of a heel, the outer toe connected as far as the first joint with the middle one. The male and female differ very little in color.

* Arct. Zool. p. 484.

SPECIES VI. *CHARADRIUS APRICARIUS*.*

BLACK-BELLIED PLOVER.

[Plate LVII. Fig. 4.]

Alwagrim Plover, *Arct. Zool.* p. 483, No. 398.—*Le Pluvier doré à gorge noire*, BUFF. VIII., 85.

THIS bird is known in some parts of the country by the name of the large Whistling Field Plover. It generally makes its first appearance in Pennsylvania late in April; frequents the countries towards the mountains; seems particularly attached to newly ploughed fields, where it forms its nest, of a few slight materials, as slightly put together. The female lays four eggs, large for the size of the bird, of a light olive color, dashed with black; and has frequently two broods in the same season. It is an extremely shy and watchful bird; though clamorous during breeding time. The young are without the black color on the breast and belly until the second year, and the colors of the plumage above are likewise imperfect till then. They feed on worms, grubs, winged insects, and various kinds of berries, particularly those usually called dewberries, and are at such times considered exquisite eating. About the beginning of September, they descend with their young to the seacoast, and associate with the numerous multitudes then returning from their breeding places in the north. At this season they abound on the plains of Long Island. They have a loud whistling note; often fly at a great height; and are called by many gunners along the coast, the Black-bellied Kildeer. The young of the first year have considerable resemblance to those of the Golden Plover; but may be easily distinguished from this last by the largeness of their head and bill, and in

* *Charadrius Helveticus*, BONAPARTE, *Journal Acad. Nat. Sc.* v., p. 103. *Ann. Lye.* II., p. 298.—*Vanellus Helveticus*, BRISS. v., p. 107, pl. 10, fig. 1, summer dress. ORB's reprint, VII., p. 42.—*Vanellus griseus*, Id. p. 100, pl. 9, fig. 1, winter dress.—*Vanellus varius*, Id. p. 103, pl. 9, fig. 2, young.—*Tringa Helvetica*, LATH. *Ind. Orn.* p. 728, No. 10, summer dress of the adult.—*T. squatarola*, Id. p. 729, No. 11, winter plumage.—*Le Vanneau varie*, BUFF. *Pl. Enl.* 923, winter dress. —*Le Vanneau gris*, Id. 854, young.—*Le Vanneau suisse*, Id. 853, summer dress of adult.—*Gray Sandpiper*, *Arct. Zool.* No. 393.—*Swiss Sandpiper*, Id. No. 396.—*British Zool.* No. 191.—EDWARDS, III, pl. 140.—*Vanellus melanozoster*, BECHSTEIN, IV., p. 356.—LATH. *Syn.* III., p. 167, No. 10; p. 168, No. 11; p. 169, Var. A.—Id. *Supp.* p. 248.—TEMME, *Man. d' Orn.* 549.

being at least two inches more in length. The greater number of those which I have examined have the rudiments of a hind toe; but the character and manners of the Plover are so conspicuous in the bird, as to determine, at the first glance, the tribe it belongs to. They continue about the seacoast until early in November, when they move off to the south.

This same bird, Mr. Pennant informs us, inhabits all the north of Europe, Iceland, Greenland, and Hudson's Bay, and all the arctic part of Siberia. It is said, that at Hudson's Bay it is called the Hawk's-eye, on account of its brilliancy. It appears, says the same author, in Greenland in the spring, about the southern lakes, and feeds on worms and berries of the heath.

This species is twelve inches long, and twenty-four inches in extent; the bill is thick, deeply grooved on the upper mandible an inch and a quarter in length, and of a black color; the head and globe of the eye are both remarkably large, the latter deep bluish black; forehead white; crown and hind-head black, spotted with golden yellow; back and scapulars dusky, sprinkled with the same golden or orange colored spots, mixed with others of white; breast, belly and vent black; sides of the breast whitish; wing-quills black, middle of the shafts white; greater coverts black, tipped with white; lining of the wing black; tail regularly barred with blackish and pure white; tail-coverts pure white; legs and feet a dusky lead color; the exterior toe joined to the middle by a broad membrane; hind toe very small.

From the length of time which these birds take to acquire their full colors, they are found in very various stages of plumage. The breast and belly are at first white, gradually appear mottled with black, and finally become totally black. The spots of orange, or golden, on the crown, hind-head and back, are at first white, and sometimes even the breast itself is marked with these spots, mingled among the black. In every stage, the seemingly disproportionate size of the head, and thickness of the bill, will distinguish this species.

NOTE.—Mr. Ord furnishes the following additional information respecting this species in his reprint of the seventh volume of Wilson.

An adult male, shot the 26th of April, near Philadelphia, measured eleven inches in length; space between the eye and bill, and cheeks, black; throat, and thence down the breast and belly, as far as the thighs, black, with white intermixed; front pure white, which extends in a narrow line over the eyes, bordering the black of the neck, as far as the breast; crown, and thence down the back part of the neck, brown and white; upper parts, with wing-coverts, banded with white and black, with some ashy brown feathers interspersed, the whole presenting an irregularly spotted appearance—the back, scapulars and tertials with

greenish reflections; lower part of abdomen, thighs, vent, lining of the wings, and under tail-coverts, pure white, the exterior vanes of the last spotted with brown black; sides under the wings very pale ash, with faint ashy brown bars; upper tail-coverts white, with narrow ashy brown bars, which increase in size, and become darker, up the rump; the upper part of the inner webs of the primaries white; bill, legs and feet, of a shining black; no golden or orange colored spots. The parts not mentioned agreeing with those of the foregoing.

Another adult male, shot at Egg Harbor, on the 10th of May, was twelve inches in length, and had its cheeks, lores, throat, middle of the breast and belly, as far as the thighs, black; the *long feathers of the sides*, at the junction of the wings, also black; feathers of the crown ash, centered with black, and tipped with white; back brownish black, plumage broadly tipped with white; wing-coverts brown ash and black, broadly spotted and tipped with white; tail white, broadly barred with black; no golden spots.

An adult female, shot at Egg Harbor, on the 26th of May, was twelve inches in length; upper parts olive brown, spotted with black and white, the *long feathers of the sides*, at the junction of the wings, black; wings crossed with a broad band of white, immediately under their coverts, spreading over their shafts; secondaries pale olive, edged and tipped with white; primaries and their coverts, black; throat and sides of the neck white, spotted with dark olive; breast and belly, as far as the thighs, black, intermixed with white; legs and feet deep purplish slate. The black of the lower parts was not so deep as that of the foregoing male. Her eggs were small.

A young male, shot at Egg Harbor, in the month of October, had whitish spots on a brownish black ground; crown nearly black, spotted with brownish yellow; breast, throat and eyebrows, pure white; the *long feathers of the sides*, at the junction of the wings, black; legs and feet lead-colored.

A young bird in Peale's collection, supposed to be a male of the first year, had its head, neck, and whole upper parts, brown ash or dark gray, spotted with white; breast white, with pale brown ash intermixed; lower part of the abdomen, and under tail-coverts, white; tail white, with large bars of ashy brown; lining of the wings white; the *long feathers of the sides*, at the junction of the wings, dusky; primaries paler than in the adult, but similarly marked with white. It had no golden or orange colored spots.

I have little doubt that the Black-bellied Plover described by Pennant as common at Hudson's Bay, and called there Hawk's-eye, is this species, although authors record it among the synonymes of the Golden Plover, in its spring dress. The hind toe of this species is very small and slender; and in dried specimens it adheres so closely to the tarsus

that it is frequently overlooked. It likewise is liable to be rubbed off; this accident probably occurred to the specimen figured and described by Edwards, under the name of Spotted Plover; for I have no hesitation in pronouncing it to be of the same species with the subject of this article. The bird figured in the British Zoology of Pennant, as the Golden Plover (Plate LXXII.), appears to be the young of this species, in its winter dress; for it is represented with a hind toe, which the true Golden Plover is never furnished with. Hence we must conclude that those authors, who describe the latter as having *sometimes* a hind toe, confound the young of the two species, which in truth so nearly resemble each other in their plumage that it requires a close observation to distinguish them. But the young of the Black-bellied Plover, or present species, may be known by their large head and stout bill; by their hind toe; and by the long dusky or black feathers which lie next to the sides, at the junction of the wings.

In the Manuel d'Ornithologie of Temminck, unquestionably the best work on the birds of Europe which has ever been published, the changes which this species undergoes are clearly detailed; and its synonymes are so well settled, that the future ornithologist will find his labors much lightened, when the subject of this article, in any stage of plumage, shall come before him. In the excellent Supplement to Montagu's Ornithological Dictionary we are also presented with some valuable references; and the editor of this volume with pleasure acknowledges the sources whence he has drawn that information which has enabled him to determine the species.

SPECIES VII. *CHARADRIUS CALIDRIS*.*

SANDERLING PLOVER.

[Plate LIX. Fig. 4.†]

LINN. *Syst.* 255.—*Arct. Zool.* p. 486, No. 403.—*Le Sanderling*, BUFF. VII., 532.—
BEWICK, II., 19.

IN this well known bird we have another proof of the imperfection of systematic arrangement, where no attention is paid to the general habits; but where one single circumstance is sometimes considered sufficient to determine the species. The genus Plover is characterized by several strong family traits, one of which is that of wanting the hind toe. The Sandpipers have also their peculiar external characters of bill, general form, &c., by which they are easily distinguished from the former. The present species, though possessing the bill, general figure, manners and voice, of the Sandpipers, feeding the same way, and associating with these in particular; yet, wanting the hind toe, has been classed with the Plovers, with whom, this single circumstance excepted, it has no one characteristic in common. Though we have not, in the present instance, presumed to alter this arrangement, yet it appears both reasonable and natural, that where the specific characters in any bird seem to waver between two species, that the figure, voice and habits of the equivocal one should always be taken into consideration, and be allowed finally to determine the class to which it belongs. Had this rule been followed in the present instance, the bird we are now about to describe would have undoubtedly been classed with the Sandpipers.‡

The history of this species has little in it to excite our interest or attention. It makes its appearance on our seacoasts early in September; continues during the greater part of winter; and on the approach of spring, returns to the northern regions to breed. While here, it seems perpetually busy, running along the wave-worn strand, following

* *Calidris arenaria*, ORD's reprint, vol. VII., p. 72.—*Tringa arenaria*, GMEL. *Syst.* I., p. 680, No. 16.—LATH. *Syn.* III., 197, No. 4.—*Ind. Orn.* p. 741, No. 4.—*Calidris grisea minor*, BRISS. V., p. 236, pl. 20, fig. 2.—TEMM. *Man. d'Orn.* p. 524.

† Winter dress.

‡ It is now arranged by naturalists in the genus *Calidris*, of Illiger; a genus constructed expressly for this bird; and it is the only species of the genus yet discovered.

the flux and reflux of the surf, eagerly picking up its food from the sand, amid the roar of the ocean. It flies in numerous flocks, keeping a low meandering course along the ridges of the tumbling surf. On alighting, the whole scatter about after the receding wave, busily picking up those minute bivalves already described. As the succeeding wave returns, it bears the whole of them before it in one crowded line; then is the moment seized by the experienced gunner to sweep them in flank, with his destructive shot. The flying survivors, after a few aerial meanders, again alight, and pursue their usual avocation, as busily and unconcernedly as before. These birds are most numerous on extensive sandy beaches in front of the ocean. Among rocks, marshes, or stones covered with sea-weed, they seldom make their appearance.

The Sanderling is eight inches long, and fourteen inches in extent; the bill is black, an inch and a quarter in length, slender, straight, fluted along the upper mandible, and exactly formed like that of the Sandpiper; the head, neck above, back, scapulars and tertials, are gray white; the shafts blackish, and the webs tinged with brownish ash; shoulder of the wing black; greater coverts broadly tipped with white; quills black, crossed with a transverse band of white; the tail extends a little beyond the wings, and is of a grayish ash color, edged with white, the two middle feathers being about half an inch longer than the others; eye dark hazel; whole lower parts of the plumage pure white; legs, and naked part of the thighs, black; feet three-toed, each divided to its origin, and bordered with a narrow membrane.

Such are the most common markings of this bird, both of males and females, particularly during the winter; but many others occur among them, early in the autumn, thickly marked or spotted with black on the crown, back, scapulars and tertials, so as to appear much mottled, having as much black as white on those parts. In many of these I have observed the plain gray plumage coming out about the middle of October; so that, perhaps, the gray may be their winter, and the spotted their summer, dress.

I have also met with many specimens of this bird, not only thickly speckled with white and black above, but also on the neck, and strongly tinged on both with ferruginous; in which dress it has been mistaken by Mr. Pennant and others for a new species; the description of his "Ruddy Plover" agreeing exactly with this.* A figure of the Sanderling, in this state of plumage, will be introduced in some part of the present work.

* See Arct. Zool. p. 486, No. 404.

*CHARADRIUS RUBIDUS.**

R U D D Y P L O V E R .

[Plate LXIII. Fig. 3.]

Arct. Zool. No. 404.—*LATH. Syn.* III., p. 195, No. 2.—*TURT. Syst.* p. 415.

THIS bird is frequently found in company with the Sanderling, which, except in color, it very much resembles. It is generally seen on the seacoast of New Jersey in May and October, on its way to and from its breeding place in the north. It runs with great activity along the edge of the flowing or retreating waves, on the sands, picking up the small bivalve shell-fish, which supply so many multitudes of the Plover and Sandpiper tribes.

I should not be surprised if the present species turn out hereafter to be the Sanderling itself, in a different dress. Of many scores which I examined, scarce two were alike; in some the plumage of the back was almost plain; in others the black plumage was just shooting out. This was in the month of October. Naturalists, however, have considered it as a separate species; but have given us no further particulars, than that "in Hudson's Bay it is known by the name of *Mistchaychekiskaweshish*;"† a piece of information certainly very instructive!

The Ruddy Plover is eight inches long, and fifteen in extent; the bill is black, an inch long, and straight; sides of the neck, and whole upper parts, speckled largely with white, black and ferruginous; the feathers being centered with black, tipped with white, and edged with ferruginous, giving the bird a very motley appearance; belly and vent pure white; wing quills black, crossed with a band of white; lesser coverts whitish, centred with pale olive, the first two or three rows black; two middle tail feathers black; the rest pale cinereous, edged with white; legs and feet black; toes bordered with a very narrow membrane. On dissection, both males and females varied in their colors and markings.

* This is the preceding species in perfect summer plumage.

† Latham.

GENUS LXXVI. HÆMATOPUS. OYSTER-CATCHER.

SPECIES. *H. OSTRALEGUS*.*

PIED OYSTER-CATCHER.

[Plate LXIV. Fig. 2.]

Arct. Zool. No. 406.—*LATH. Syn.* III., p. 219.—*CATESBY*, I., 85.—*BEWICK*, II., 23.

THIS singular species, although nowhere numerous, inhabits almost every seashore, both on the new and old continent, but is never found inland. It is the only one of its genus hitherto discovered, and from the conformation of some of its parts one might almost be led by fancy to suppose, that it had borrowed the eye of the Pheasant, the legs and feet of the Bustard, and the bill of the Woodpecker.

The Oyster-catcher frequents the sandy sea beach of New Jersey, and other parts of our Atlantic coast in summer, in small parties of two or three pairs together. They are extremely shy, and, except about the season of breeding, will seldom permit a person to approach within gunshot. They walk along the shore in a watchful stately manner, at times probing it with their long wedge-like bills in search of small shell-fish. This appears evident on examining the hard sands where they usually resort, which are found thickly perforated with oblong holes two or three inches in depth. The small crabs called *fiddlers*, that burrow in the mud at the bottom of inlets, are frequently the prey of the Oyster-catcher; as are muscles, spout-fish, and a variety of other shell-fish and sea insects with which those shores abound.

The principal food, however, of this bird, according to European writers, and that from which it derives its name, is the oyster, which it is said to watch for, and snatch suddenly from the shells, whenever it surprises them sufficiently open. In search of these it is reported that it often frequents the oyster beds, looking out for the slightest opening through which it may attack its unwary prey. For this purpose the form of its bill seems very fitly calculated. Yet the truth of these accounts is doubted by the inhabitants of Egg Harbor and other parts of our coast, who positively assert that it never haunts such places, but confines itself almost solely to the sands. And this opinion I am inclined to

* *Gmel. Syst.* I., p. 694.—*LATH. Ind. Orn.* p. 752.—*Gen. Syn.* III., p. 219.—*STEPHENS, Gen. Zool.* XI., p. 494, pl. 36.—*L'Huitrier, BUFF.* VIII., p. 119, pl. 9.—*Pl. Enl.* No. 729.—*TEMME. Man. d'Orn.* p. 531.

bélieve correct; having myself uniformly found these birds on the smooth beach bordering the ocean, and on the higher dry and level sands, just beyond the reach of the summer tides. On this last situation, where the dry flats are thickly interspersed with drifted shells, I have repeatedly found their nests, between the middle and twenty-fifth of May. The nest itself is a slight hollow in the sand, containing three eggs, somewhat less than those of a hen, and nearly of the same shape, of a bluish cream color, marked with large roundish spots of black, and others of a fainter tint. In some the ground cream color is destitute of the bluish tint, the blotches larger, and of a deep brown. The young are hatched about the twenty-fifth of May, and sometimes earlier, having myself caught them running along the beach about that period. They are at first covered with down of a grayish color, very much resembling that of the sand, and marked with a streak of brownish black on the back, rump and neck, the breast being dusky, where in the old ones it is black. The bill is at that age slightly bent downwards at the tip, where, like most other young birds, it has a hard protuberance that assists them in breaking the shell; but in a few days afterwards this falls off.* These run along the shore with great ease and swiftness.

The female sits on her eggs only during the night, or in remarkably cold and rainy weather; at other times the heat of the sun and of the sand, which is sometimes great, renders incubation unnecessary. But although this is the case, she is not deficient in care or affection. She watches the spot with an attachment, anxiety and perseverance that are really surprising, till the time arrives when her little offspring burst their prisons, and follow the guiding voice of their mother. When there is appearance of danger they squat on the sand, from which they are with difficulty distinguished, while the parents make large circuits around the intruder, alighting sometimes on this hand, sometimes on that, uttering repeated cries, and practising the common affectionate stratagem of counterfeited lameness to allure him from their young.

These birds run and fly with great vigor and velocity. Their note is a loud and shrill whistling *wheep—wheep—wheo*, smartly uttered. A flock will often rise, descend, and wheel in air with remarkable regularity, as if drilled to the business, the glittering white of their wings at such times being very conspicuous. They are more remarkable for this on their first arrival in the spring. Some time ago I received a stuffed specimen of the *Oyster-catcher* from a gentleman of Boston, an expe-

* Latham observes, that the young are said to be hatched in about three weeks; and though they are wild when in flocks, yet are easily brought up tame if taken young. "I have known them," says he, "to be thus kept for a long time, frequenting the ponds and ditches during the day, attending the ducks and other poultry to shelter of nights, and not unfrequently to come up of themselves as evening approaches." *Gen. Synop.* vol. III., p. 220.

rienced sportsman, who nevertheless was unacquainted with this bird. He informed me that two very old men to whom it was shown called it a *Hagdel*. He adds, "it was shot from a flock which was first discovered on the beach near the entrance of Boston harbor. On the approach of the gunner they rose and instantly formed in line, like a corps of troops, and advanced in perfect order, keeping well dressed. They made a number of circuits in the air previous to being shot at, but wheeled in line; and the man who fired into the flock, observed that all their evolutions were like a regularly organized military company."

The Oyster-catcher will not only take to the water when wounded, but can also swim and dive well. This fact I can assert from my own observation, the exploits of one of them in this way having nearly cost me my life. On the sea beach of Cape May, not far from a deep and rapid inlet, I broke the wing of one of these birds, and being without a dog, instantly pursued it towards the inlet, which it made for with great rapidity. We both plunged in nearly at the same instant; but the bird eluded my grasp, and I sunk beyond my depth; it was not until this moment that I recollected having carried in my gun along with me. On rising to the surface I found the bird had dived, and a strong ebb current was carrying me fast towards the ocean, encumbered with a gun and all my shooting apparatus; I was compelled to relinquish my bird, and to make for the shore, with considerable mortification, and the total destruction of the contents of my powderhorn. The wounded bird afterwards rose, and swam with great buoyancy out among the breakers.

On the same day I shot and examined three individuals of this species, two of which measured each eighteen inches in length, and thirty-five inches in extent; the other was somewhat less. The bills varied in length, measuring three inches and three-quarters, three and a half, and three and a quarter, thinly compressed at the point, very much like that of the Woodpecker tribe, but remarkably narrowed near the base where the nostrils are placed, probably that it may work with more freedom in the sand. This instrument for two-thirds of its length towards the point, was evidently much worn by digging; its color a rich orange scarlet, somewhat yellowish near the tip; eye large, orbits of the same bright scarlet as the bill, irides brilliant yellow, pupil small, bluish black; under the eye is a small spot of white, and a large bed of the same on the wing coverts; head, neck, scapulars, rump, wing quills, and tail black; several of the primaries are marked on the outer vanes with a slanting band of white; secondaries white, part of them tipped with black; the whole lower parts of the body, sides of the rump, tail coverts, and that portion of the tail which they cover, are pure white; the wings, when shut, cover the whole white plumage of the back and

rump; legs and naked part of the thighs pale red; feet three toed, the outer joined to the middle by a broad and strong membrane, and each bordered with a rough warty edge; the soles of the feet are defended from the hard sand and shells by a remarkably thick and callous warty skin.

On opening these birds the smallest of the three was found to be a male; the gullet widened into a kind of crop; the stomach, or gizzard, contained fragments of shell-fish, pieces of crabs, and of the great king-crab, with some dark brown marine insects. The flesh was remarkably firm and muscular, the skull thick and strong, intended no doubt, as in the Woodpecker tribe, for the security of the brain from the violent concussions it might receive while the bird was engaged in digging. The female and young birds have the back and scapulars of a sooty brownish olive.

This species is found as far south as Cayenne and Surinam. Dampier met with it on the coast of New Holland; the British circumnavigators also saw it on Van Diemen's Land, Terra del Fuego, and New Zealand.

GENUS LXXVIII. RALLUS. RAIL.

SPECIES I. *R. CREPITANS*.

CLAPPER RAIL.

[Plate LXII. Fig. 2.]

Arct. Zool. No. 407.—*Turt. Syst.* p. 430.—*Lath. Syn.* III., p. 229, No. 2.

THIS is a very numerous and well known species, inhabiting our whole Atlantic coast from New England to Florida. It is designated by different names, such as the Mud-hen, Clapper Rail, Meadow-clapper, Big Rail, &c., &c. Though occasionally found along the swampy shores, and tide waters, of our large rivers, its principal residence is in the salt marshes. It is a bird of passage, arriving on the coast of New Jersey about the 20th of April, and retiring again late in September. I suspect that many of them winter in the marshes of Georgia and Florida, having heard them very numerous, at the mouth of Savannah river, in the month of February. Coasters and fishermen often hear them while on their migrations, in spring, generally a little before daybreak. The shores of New Jersey, within the beach, consisting of an immense extent of flat marsh, covered with a coarse reedy grass, and occasionally overflowed by the sea, by which it is also cut up into innumerable islands by narrow inlets, seem to be the favorite breeding place for these

birds, as they are there acknowledged to be more than double in number to all other marsh fowl.

The Clapper Rail, or as it is generally called, the Mud-hen, soon announces its arrival in the salt marshes, by its loud, harsh and incessant cackling, which very much resembles that of a Guinea fowl. This noise is most general during the night; and is said to be always greatest before a storm. About the 20th of May, they generally commence laying and building at the same time; the first egg being usually dropped in a slight cavity, lined with a little dry grass, pulled for the purpose, which, as the number of the eggs increase to their usual complement, *ten*, is gradually added to, until it rises to the height of twelve inches or more, doubtless to secure it from the rising of the tides. Over this, the long salt grass is artfully arched, and knit at top, to conceal it from the view above: but this very circumstance enables the experienced egg-hunter to distinguish the spot at the distance of thirty or forty yards, though imperceptible to a common eye. The eggs are of a pale clay color, sprinkled with small spots of dark red, and measure somewhat more than an inch and a half in length, by one inch in breadth, being rather obtuse at the small end. These eggs are exquisite eating, far surpassing those of the domestic hen. The height of laying is about the 1st of June, when the people of the neighborhood go off to the marshes *an egg'ing*, as it is called. So abundant are the nests of this species, and so dexterous some persons at finding them, that one hundred dozens of eggs have been collected by one man in a day. At this time the crows, the foxes, and the minxes, come in for their share; but not content with the eggs, these last often seize and devour the parents also. The bones, feathers, wings, &c., of the poor Mud-hen lie in heaps near the hole of the minx; by which circumstance, however, he himself is often detected and destroyed.

These birds are also subject to another calamity, of a more extensive kind. After the greater part of the eggs are laid, there sometimes happen violent north-east tempests, that drive a great sea into the bay, covering the whole marshes; so that at such times the Rail may be seen in hundreds, floating over the marsh in great distress; many escape to the main land; and vast numbers perish. On an occasion of this kind I have seen, at one view, thousands in a single meadow, walking about exposed and bewildered, while the dead bodies of the females, who had perished on or near their nests, were strewed along the shore. This last circumstance proves how strong the ties of maternal affection are in these birds; for of the great numbers which I picked up and opened, not one male was to be found among them; all were females! such as had not yet begun to sit probably escaped. These disasters do not prevent the survivors from recommencing the work of laying and building anew; and instances have occurred, where their eggs have been

twice destroyed by the sea; and yet in two weeks, the eggs and nests seemed as numerous as ever.

The young of the Clapper Rail very much resemble those of the Virginian Rail, except in being larger. On the 10th of August, I examined one of these young Clapper Rails, caught among the reeds in the Delaware, and apparently about three weeks old; it was covered with black down, with the exception of a spot of white on the auriculars, and a streak of the same along the side of the breast, belly, and fore part of the thigh; the legs were of a blackish slate color; and the bill was marked with a spot of white near the point, and round the nostril. These run with great facility among the grass and reeds, and are taken with extreme difficulty.

The whole defence of this species seems to be in the nervous vigor of its limbs, and thin compressed form of its body, by which it is enabled to pass between the stalks of grass and reeds with great rapidity. There are also everywhere among the salt marshes, covered ways under the flat and matted grass, through which the rail makes its way like a rat, without a possibility of being seen. There is generally one or more of these from its nest to the water edge, by which it may escape unseen; and sometimes, if closely pressed, it will dive to the other side of the pond, gut, or inlet, rising and disappearing again with the silence and celerity of thought. In smooth water it swims tolerably well, but not fast; sitting high in the water, with its neck erect, and striking with great rapidity. When on shore, it runs with the neck extended, the tail erect, and frequently flirts up. On fair ground, they run nearly as fast as a man; having myself, with great difficulty, caught some that were wing-broken. They have also the faculty of remaining under water for several minutes, clinging close, head downwards, by the roots of the grass. In a long stretch, they fly with great velocity, very much in the manner of a Duck, with extended neck, and generally low; but such is their aversion to take wing, that you may traverse the marshes, where there are hundreds of these birds, without seeing one of them; nor will they flush until they have led the dog through numerous labyrinths, and he is on the very point of seizing them.

The food of the Clapper Rail consists of small shell-fish, particularly those of the snail form, so abundant in the marshes; they also eat small crabs. Their flesh is dry, tastes sedgy, and will bear no comparison with that of the common Rail. Early in October, they move off to the south; and though, even in winter, a solitary instance of one may sometimes be seen, yet these are generally such as have been weak or wounded, and unable to perform the journey.

The Clapper Rail measures fourteen inches in length, and eighteen in extent; the bill is two inches and a quarter long, slightly bent, pointed, grooved, and of a reddish brown color; iris of the eye dark red; nos-

tril oblong, pervious; crown, neck and back, black, streaked with dingy brown; chin, and line over the eye, brownish white; auriculars dusky; neck before, and whole breast, of the same red brown as that of the preceding species; wing coverts dark chestnut; quill feathers plain dusky; legs reddish brown; flanks and vent black, tipped or barred with white. The males and females are nearly alike.

The young birds of the first year have the upper parts of an olive brown, streaked with pale slate; wings pale brown olive; chin, and part of the throat, white; breast ash color, tinged with brown; legs and feet a pale horn color. Mr. Pennant, and several other naturalists, appear to have taken their descriptions from these imperfect specimens, the Clapper Rail being altogether unknown in Europe.

I have never met with any of these birds in the interior at a distance from lakes or rivers. I have also made diligent inquiry for them along the shores of Lakes Champlain and Ontario, but without success.

NOTE.—Mr. T. Peale and myself had an opportunity of verifying the conjecture of the author, as to the winter retreat of these birds; we having found them to be extremely numerous in the marshes of the coast of Georgia, in the month of January. In such multitudes were they along the borders of the streams or passages, which separate the sea-islands from the main, that their loud and incessant noise became quite as disgusting as the monotonous cackle of that intolerable nuisance, the Guinea-fowl.—*G. Ord.*

SPECIES II. *RALLUS VIRGINIANUS*.

VIRGINIAN RAIL.

[Plate LXII. Fig. 1.]

Arct. Zool. No. 408.—EDW. 279.—LATH. *Syn.* III., p. 228, No. 1, var. A.

THIS species very much resembles the European Water Rail (*Rallus aquaticus*), but is smaller, and has none of the slate or lead color on the breast, which marks that of the old continent; its toes are also more than proportionably shorter, which, with a few other peculiarities, distinguish the species. It is far less numerous in this part of the United States than our common Rail, and, as I apprehend, inhabits more remote northern regions. It is frequently seen along the borders of our salt marshes, which the other rarely visits; and also breeds there, as well as among the meadows that border our large rivers. It spreads over the interior as far west as the Ohio, having myself shot it in the Barrens of Kentucky, early in May. The people there observe them in wet places, in the groves, only in spring. It feeds less on vegetable, and more on animal, food than the common Rail. During the months of September and October, when the reeds and wild oats swarm with the latter species, feeding on their nutritious seeds, a few of the present kind are occasionally found; but not one for five hundred of the others. The food of the present species consists of small snail shells, worms, and the larvæ of insects, which it extracts from the mud; hence the cause of its greater length of bill, to enable it the more readily to reach its food. On this account also, its flesh is much inferior to that of the other. In most of its habits, its thin compressed form of body, its aversion to take wing, and the dexterity with which it runs or conceals itself among the grass and sedge, are exactly similar to those of the common Rail, from which genus, notwithstanding the difference of its bill, it ought not to be separated.

This bird is known to some of the inhabitants along the sea-coast of New Jersey, by the name of Fresh-water *Mud-hen*, this last being the common appellation of the Clapper Rail, which the present species resembles in everything but size. The epithet Fresh-water, is given it because of its frequenting those parts of the marsh only, where fresh water springs rise through the bogs into the salt marshes. In these places it usually constructs its nest, one of which, through the active exertions of my friend, Mr. Ord, while traversing with me the salt marshes of Cape May, we had the good fortune to discover. It was built in the bottom of a tuft of grass, in the midst of an almost impe-

netrable quagmire, and was composed altogether of old wet grass and rushes. The eggs had been floated out of the nest by the extraordinary rise of the tide, in a violent north-east storm, and lay scattered about among the drift-weed. The female, however, still lingered near the spot, to which she was so attached, as to suffer herself to be taken by hand. She doubtless intended to repair her nest, and commence laying anew; as, during the few hours that she was in our possession, she laid one egg, corresponding in all respects with the others. On examining those floated out of the nest, they contained young, perfectly formed but dead. The usual number of eggs is from six to ten. They are shaped like those of the domestic hen, measuring one inch and two-tenths long, by very nearly half an inch in width, and are of a dirty white, or pale cream color, sprinkled with specks of reddish, and pale purple, most numerous near the great end. They commence laying early in May, and probably raise two broods in the season. I suspect this from the circumstance of Mr. Ord having, late in the month of July, brought me several young ones, of only a few days old, which were caught among the grass, near the border of the Delaware. The parent Rail showed great solicitude for their safety. They were wholly black, except a white spot on the bill; were covered with a fine down, and had a soft piping note. In the month of June, of the same year, another pair of these birds began to breed amidst a boggy spring in one of Mr. Bartram's meadows; but were unfortunately destroyed.

The Virginian Rail is migratory, never wintering in the Northern or Middle States. It makes its first appearance in Pennsylvania early in May; and leaves the country on the first smart frosts generally in November. I have no doubt but many of them linger in the low woods, and marshes, of the Southern States, during winter.

This species is ten inches long, and fourteen inches in extent; bill dusky red; cheeks and stripe over the eye ash, over the lores, and at the lower eyelid, white; iris of the eye red; crown and whole upper parts black, streaked with brown, the centre of each feather being black; wing-coverts hazel brown, inclining to chestnut; quills plain deep dusky; chin white; throat, breast and belly, orange brown; sides and vent black, tipped with white; legs and feet dull red brown; edge of the bend of the wing white.

The female is about half an inch shorter, and differs from the male in having the breast much paler, not of so bright a reddish brown; there is also more white on the chin and throat.

When seen, which is very rarely, these birds stand or run with the tail erect, which they frequently jerk upwards. They fly with the legs hanging, generally but a short distance; and the moment they alight, run off with great speed.

SPECIES III. *RALLUS CAROLINUS*.

R A I L.

[Plate XLVIII. Fig. 1, Male.]

Soree, CATESB. I., 70.—*Arct. Zool.* p. 491, No. 409.—*Little American Water Hen*, EDW. 144.—*Le Râl de Virginie*, BUFF. VIII., 165.*

OF all our land or water fowl, perhaps none afford the sportsman more agreeable amusement, or a more delicious repast, than the little bird now before us. This amusement is indeed temporary, lasting only two or three hours in the day, for four or five weeks in each year; but as it occurs in the most agreeable and temperate of our seasons, is attended with little or no fatigue to the gunner, and is frequently successful, it attracts numerous followers, and is pursued, in such places as the birds frequent, with great eagerness and enthusiasm.

The natural history of the *Rail*, or as it is called in Virginia the *Sora*, and in South Carolina the *Coot*, is, to the most of our sportsmen, involved in profound and inexplicable mystery. It comes, they know not whence; and goes, they know not whither. No one can detect their first moment of arrival; yet all at once the reedy shores, and grassy marshes, of our large rivers swarm with them, thousands being sometimes found within the space of a few acres. These, when they do venture on wing, seem to fly so feebly, and in such short fluttering flights among the reeds, as to render it highly improbable, to most people, that they could possibly make their way over an extensive tract of country. Yet, on the first smart frost that occurs, the whole suddenly disappear, as if they had never been.

To account for these extraordinary phenomena, it has been supposed, by some, that they bury themselves in the mud; but as this is every year dug into by ditchers and people employed in repairing the banks, without any of those sleepers being found, where but a few weeks before these birds were innumerable, this theory has been generally abandoned. And here their researches into this mysterious matter generally end in the common exclamation of "What can become of them!" Some profound inquirers, however, not discouraged with these difficulties, have

* *Rallus Carolinus*, LINN. *Syst.* p. 153, No. 5, ed. 10.—*Gallinula Carolina*, LATH. *Ind. Orn.* p. 771, No. 17.

prosecuted their researches with more success; and one of those, living a few years ago near the mouth of James river, in Virginia, where the Rail or Sora are extremely numerous, has (as I was informed on the spot) lately discovered, that they change into *frogs*! having himself found in his meadows an animal of an extraordinary kind, that appeared to be neither a Sora nor a frog; but, as he expressed it, "something between the two." He carried it to his negroes, and afterwards took it home, where it lived three days, and in his own, and his negroes' opinion, it looked like nothing in this world but a real Sora, changing into a frog! What farther confirms this grand discovery, is the well known circumstance of the frogs ceasing to hollow as soon as the Sora comes in the fall.

This sagacious discoverer, however, like many others renowned in history, has found but a few supporters; and, except his own negroes, has not, as far as I can learn, made a single convert to his opinion. Matters being so circumstanced, and some explanation necessary, I shall endeavor to throw a little more light on the subject, by a simple detail of facts, leaving the reader to form his own theory as he pleases.

The Rail or Sora belongs to a genus of birds of which about thirty different species are enumerated by naturalists; and these are distributed over almost every region of the habitable parts of the earth. The general character of these is everywhere the same. They run swiftly, fly slowly, and usually with the legs hanging down; become extremely fat; are fond of concealment; and, wherever it is practicable, prefer running to flying. Most of them are migratory, and abound during the summer in certain countries, the inhabitants of which have very rarely an opportunity of seeing them. Of this last the Land Rail of Britain is a striking example. This bird, which, during the summer months, may be heard in almost every grass and clover field in the kingdom, uttering its common note *erek, erek*, from sunset to a late hour in the night, is yet unknown, by sight, to more than nine-tenths of the inhabitants. "Its well known cry," says Bewick, "is first heard as soon as the grass becomes long enough to shelter it, and continues till the grass is cut; but the bird is seldom seen, for it constantly skulks among the thickest part of the herbage, and runs so nimbly through it, winding and doubling in every direction, that it is difficult to come near it; when hard pushed by the dog, it sometimes stops short, and squats down, by which means its too eager pursuer overshoots the spot, and loses the trace. It seldom springs but when driven to extremity, and generally flies with its legs hanging down, but never to a great distance; as soon as it alights it runs off, and before the fowler has reached the spot, the bird is at a considerable distance."* The *Water Crake*, or

* Bewick's British Birds, vol. i., p. 308.

Spotted Rail of the same country, which in its plumage approaches nearer to our Rail, is another notable example of the same general habit of the genus. "Its common abode," says the same writer, "is in low swampy grounds, in which are pools or streamlets overgrown with willows, reeds and rushes, where it lurks and hides itself with great circumspection; it is wild, solitary and shy, and will swim, dive or skulk under any cover, and sometimes suffer itself to be knocked on the head, rather than rise before the sportsman and his dog." The Water Rail of the same country is equally noted for the like habits. In short, the whole genus possess this strong family character in a very remarkable degree.

These three species are well known to migrate into Britain early in spring, and to leave it for the more southern parts of Europe in autumn. Yet they are rarely or never seen in their passage to or from the countries where they are regularly found at different seasons of the year; and this for the very same reasons, that they are so rarely seen even in the places where they inhabit.

It is not, therefore, at all surprising, that the regular migrations of the American Rail or Sora should, in like manner, have escaped notice in a country like this, whose population bears so small a proportion to its extent; and where the study of natural history is so little attended to. But that these migrations do actually take place, from north to south, and *vice versa*, may be fairly inferred from the common practice of thousands of other species of birds less solicitous of concealment, and also from the following facts.

On the twenty-second day of February I killed two of these birds in the neighborhood of Savannah in Georgia, where they have never been observed during the summer. On the second of the May following, I shot another in a watery thicket below Philadelphia, between the rivers Schuylkill and Delaware, in what is usually called the *Neck*. This last was a male, in full plumage. We are also informed, that they arrive at Hudson's Bay early in June, and again leave that settlement for the south early in autumn. That many of them also remain here to breed is proved by the testimony of persons of credit and intelligence with whom I have conversed, both here and on James river in Virginia, who have seen their nests, eggs and young. In the extensive meadows that border the Schuylkill and Delaware, it was formerly common, before the country was so thickly settled there, to find young Rail in the first mowing time, among the grass. Mr. James Bartram, brother to the botanist, a venerable and still active man of eighty-three, and well acquainted with this bird, says, that he has often seen and caught young Rail in his own meadows in the month of June; he has also seen their nest, which he says is usually in a tussock of grass, is formed of a little dry grass, and has four or five eggs of a dirty whitish color, with brown

or blackish spots; the young run off as soon as they break the shell, are then quite black, and run about among the grass like mice. The old ones he has very rarely observed at that time, but the young often. Almost every old settler along these meadows, with whom I have conversed, has occasionally seen young Rail in mowing time; and all agree in describing them as covered with blackish down. There can, therefore, be no reasonable doubt as to the residence of many of these birds both here and to the northward during the summer. That there can be as little doubt relative to their winter retreat, will appear more particularly towards the sequel of the present account. During their residence here, in summer, their manners exactly correspond with those of the Water Crake of Britain already quoted; so that, though actually a different species, their particular habits, common places of resort, and eagerness for concealment, are as nearly the same as the nature of the climates will admit.

Early in August, when the reeds along the shores of the Delaware have attained their full growth, the Rail resort to them in great numbers, to feed on the seeds of this plant, of which they, as well as the Rice-birds, and several others, are immoderately fond. These reeds, which appear to be the *Zizania panicula effusa* of Linnæus, and the *Zizania clavulosa* of Willdenow, grow up from the soft muddy shores of the tide water, which are alternately dry, and covered with four or five feet of water. They rise with an erect, tapering stem to the height of eight or ten feet, being nearly as thick below as a man's wrist, and cover tracts along the river, of many acres. The cattle feed on their long green leaves with avidity, and wade in after them, as far as they dare safely venture. They grow up so close together that, except at or near high water, a boat can with difficulty make its way through among them. The seeds are produced at the top of the plant, the blossoms or male parts occupying the lower branches of the pannicle, and the seeds the higher. These seeds are nearly as long as a common-sized pin, somewhat more slender, white, sweet to the taste, and very nutritive, as appears by their effects on the various birds that, at this season, feed on them.

When the reeds are in this state, and even while in blossom, the Rail are found to have taken possession of them in great numbers. These are generally numerous in proportion to the full and promising crop of the former. As you walk along the embankment of the river, at this season, you hear them squeaking in every direction, like young puppies; if a stone be thrown among the reeds, there is a general outcry, and a reiterated *kuk kuk kuk*, something like that of a Guinea-fowl. Any sudden noise, or the discharge of a gun, produces the same effect. In the meantime, none are to be seen, unless it be at or near high-water; for when the tide is low, they universally secrete themselves among the

interstices of the reeds, and you may walk past, and even over them, where there are hundreds, without seeing a single individual. On their first arrival they are generally lean, and unfit for the table; but as the reeds ripen, they rapidly fatten, and from the 20th of September to the middle of October are excellent, and eagerly sought after. The usual method of shooting them, in this quarter of the country, is as follows. The sportsman furnishes himself with a light batteau, and a stout experienced boatman, with a pole of twelve or fifteen feet long, thickened at the lower end, to prevent it from sinking too deep into the mud. About two hours or so before high-water, they enter the reeds, and each takes his post, the sportsman standing in the bow ready for action, the boatman on the stern seat, pushing her steadily through the reeds. The Rail generally spring singly, as the boat advances, and at a short distance ahead, are instantly shot down, while the boatman, keeping his eye on the spot where the bird fell, directs the boat forward, and picks it up as the gunner is loading. It is also the boatman's business to keep a sharp look-out, and give the word *mark*, when a Rail springs on either side, without being observed by the sportsman, and to note the exact spot where it falls, until he has picked it up; for this once lost sight of, owing to the sameness in the appearance of the reeds, is seldom found again. In this manner the boat moves steadily through, and over the reeds, the birds flushing and falling, the gunner loading and firing, while the boatman is pushing and picking up. The sport continues till an hour or two after high-water, when the shallowness of the water, and the strength and weight of the floating reeds, as also the backwardness of the game to spring as the tide decreases, obliges them to return. Several boats are sometimes within a short distance of each other, and a perpetual cracking of musketry prevails along the whole reedy shores of the river. In these excursions it is not uncommon for an active and expert marksman to kill ten or twelve dozens in a tide. They are usually shot singly, though I have known five killed at one discharge of a double-barrelled piece. These instances, however, are rare.

The flight of these birds among the reeds is usually low; and, shelter being abundant, is rarely extended to more than fifty or one hundred yards. When winged, and uninjured in their legs, they swim and dive with great rapidity, and are seldom seen to rise again. I have several times, on such occasions, discovered them clinging with their feet to the reeds under the water, and at other times skulking under the floating reeds, with their bill just above the surface. Sometimes, when wounded, they dive, and rising under the gunwale of the boat, secrete themselves there, moving round as the boat moves, until they have an opportunity of escaping unnoticed. They are feeble and delicate in everything but the legs, which seem to possess great vigor and energy; and their bodies being so remarkably thin, or compressed, as to be less than an

inch and a quarter through transversely, they are enabled to pass between the reeds like rats. When seen, they are almost constantly jetting up the tail. Yet, though their flight among the reeds seems feeble and fluttering, every sportsman, who is acquainted with them here, must have seen them occasionally rising to a considerable height, stretching out their legs behind them, and flying rapidly across the river, where it is more than a mile in width.

Such is the mode of Rail-shooting in the neighborhood of Philadelphia. In Virginia, particularly along the shores of James river, within the tide water, where the Rail, or Sora, are in prodigious numbers, they are also shot on the wing, but more usually taken at night in the following manner:—A kind of iron grate is fixed on the top of a stout pole, which is placed like a mast, in a light canoe, and filled with fire. The darker the night the more successful is the sport. The person who manages the canoe is provided with a light paddle, ten or twelve feet in length; and about an hour before high-water proceeds through among the reeds, which lie broken and floating on the surface. The whole space, for a considerable way round the canoe, is completely enlightened; the birds stare with astonishment, and as they appear, are knocked on the head with the paddle, and thrown into the canoe. In this manner from twenty to eighty dozens have been killed by three negroes, in the short space of three hours.

At the same season, or a little earlier, they are very numerous in the lagoons near Detroit, on our northern frontiers, where another species of reed (of which they are equally fond) grows in shallows, in great abundance. Gentlemen who have shot them there, and on whose judgment I can rely, assure me, that they differ in nothing from those they have usually killed on the shores of the Delaware and Schuylkill; they are equally fat, and exquisite eating. On the seacoast of New Jersey, where these reeds are not to be found, this bird is altogether unknown; though along the marshes of Maurice river, and other tributary streams of the Delaware, and wherever the reeds abound, the Rail are sure to be found also. Most of them leave Pennsylvania before the end of October, and the Southern States early in November; though numbers linger in the warm southern marshes the whole winter. A very worthy gentleman, Mr. Harrison, who lives in Kittiwah, near a creek of that name, on the borders of James river, informed me, that in burning his meadows early in March, they generally raise and destroy several of these birds. That the great body of these Rail winter in countries beyond the United States, is rendered highly probable from their being so frequently met with at sea, between our shores and the West India Islands. A Captain Douglass informed me, that on his voyage from St. Domingo to Philadelphia, and more than a hundred miles from the capes of the Delaware, one night the man at the helm was alarmed by

a sudden crash on deck, that broke the glass in the binnacle, and put out the light. On examining into the cause, three Rail were found on deck, two of which were killed on the spot, and the other died soon after. The late Bishop Madison, president of William and Mary College, Virginia, assured me, that a Mr. Skipwith, for some time our consul in Europe, in his return to the United States, when upwards of three hundred miles from the capes of the Chesapeake, several Rail or Soras, I think five or six, came on board, and were caught by the people. Mr. Skipwith being well acquainted with the bird, assured him that they were the very same with those usually killed on James river. I have received like assurances from several other gentlemen, and captains of vessels, who have met with these birds between the main land and the islands, so as to leave no doubt on my mind of the fact. For, why should it be considered incredible that a bird which can both swim and dive well, and at pleasure fly with great rapidity, as I have myself frequently witnessed, should be incapable of migrating, like so many others, over extensive tracts of land or sea? Inhabiting, as they do, the remote regions of Hudson's Bay, where it is impossible they could subsist during the rigors of their winter, they must either emigrate thence or perish; and as the same places in Pennsylvania, which abound with them in October, are often laid under ice and snow during the winter, it is as impossible that they could exist here in that inclement season; Heaven has therefore given them, in common with many others, certain prescience of these circumstances; and judgment, as well as strength of flight, sufficient to seek more genial climates, abounding with their suitable food.

The Rail is nine inches long, and fourteen inches in extent; bill yellow, blackish towards the point; lores, front crown, chin, and stripe down the throat, black; line over the eye, cheeks and breast, fine light ash; sides of the crown, neck, and upper parts generally olive brown, streaked with black, and also with long lines of pure white, the feathers being centered with black, on a brown olive ground, and edged with white; these touches of white are shorter near the shoulder of the wing, lengthening as they descend; wing plain olive brown; tertials streaked with black and long lines of white; tail pointed, dusky olive brown, centered with black, the four middle feathers bordered for half their length with lines of white; lower part of the breast marked with semicircular lines of white, on a light ash ground; belly white; sides under the wings deep olive, barred with black, white, and reddish buff; vent brownish buff; legs, feet, and naked part of the thighs, yellowish green; exterior edge of the wing white; eyes reddish hazel.

The females, and young of the first season, have the throat white, the breast pale brown, and little or no black on the head. The males

may always be distinguished by their ashy blue breasts, and black throats.

During the greater part of the months of September and October, the market of Philadelphia is abundantly supplied with Rail, which are sold from half a dollar to a dollar a dozen. Soon after the twentieth of October, at which time our first smart frosts generally take place, these birds move off to the south. In Virginia they usually remain until the first week in November.

Since the above was written, I have received from Mr. George Ord, of Philadelphia, some curious particulars relative to this bird, which, as they are new, and come from a gentleman of respectability, are worthy of being recorded, and merit further investigation.

"My personal experience," says Mr. Ord, "has made me acquainted with a fact in the history of the Rail, which perhaps is not generally known; and I shall, as briefly as possible, communicate it to you. Some time in the autumn of the year 1809, as I was walking in a yard, after a severe shower of rain, I perceived the feet of a bird projecting from a spout. I pulled it out, and discovered it to be a Rail, very vigorous, and in perfect health. The bird was placed in a small room, on a gin-case; and I was amusing myself with it, when, in the act of pointing my finger at it, it suddenly sprang forward, apparently much irritated, fell to the floor, and stretching out its feet, and bending its neck, until the head nearly touched the back, became to all appearance lifeless. Thinking the fall had killed the bird, I took it up, and began to lament my rashness in provoking it. In a few minutes it again breathed; and it was some time before it perfectly recovered from the fit, into which, it now appeared evident, it had fallen. I placed the Rail in a room, wherein Canary birds were confined; and resolved that, on the succeeding day, I would endeavor to discover whether or not the passion of anger had produced the fit. I entered the room at the appointed time, and approached the bird, which had retired on beholding me, in a sullen humor, to a corner. On pointing my finger at it, its feathers were immediately ruffled; and in an instant it sprang forward, as in the first instance, and fell into a similar fit. The following day the experiment was repeated, with the like effect. In the autumn of 1811, as I was shooting amongst the reeds, I perceived a Rail rise but a few feet before my batteau. The bird had risen about a yard when it became entangled in the tops of a small bunch of reeds, and immediately fell. Its feet and neck were extended, as in the instances above mentioned; and before it had time to recover, I killed it. Some few days afterwards, as a friend and I were shooting in the same place, he killed a Rail, and, as we approached the spot to pick it up, another was perceived, not a foot off, in a fit. I took up the bird, and placed it in the crown of my hat. In a few moments it revived, and was as vigorous

as ever. These facts go to prove, that the Rail is subject to gusts of passion, which operate to so violent a degree as to produce a disease, similar in its effects to epilepsy. I leave the explication of the phenomenon to those pathologists who are competent and willing to investigate it. It may be worthy of remark, that the birds affected as described, were all females of the *Rallus Carolinus*, or common Rail.

“The Rail, though generally reputed a simple bird, will sometimes manifest symptoms of considerable intelligence. To those acquainted with Rail-shooting, it is hardly necessary to mention, that the tide, in its flux, is considered an almost indispensable auxiliary; for, when the water is off the marsh, the lubricity of the mud, the height and compactness of the reed, and the swiftness of foot of the game, tend to weary the sportsman, and to frustrate his endeavors. Even should he succeed in a tolerable degree, the reward is not commensurate to the labor. I have entered the marsh in a batteau, at a common tide, and in a well-known haunt have beheld but few birds. The next better tide, on resorting to the same spot, I have perceived abundance of game. The fact is, the Rail dive, and conceal themselves beneath the fallen reed, merely projecting their heads above the surface of the water for air, and remain in that situation until the sportsman has passed them; and it is well known, that it is a common practice with wounded Rail to dive to the bottom, and, holding upon some vegetable substance, support themselves in that situation until exhausted. During such times, the bird, in escaping from one enemy, has often to encounter another not less formidable. Eels and cat-fish swarm in every direction, prowling for prey; and it is ten to one if a wounded Rail escapes them. I myself have beheld a large eel make off with a bird that I had shot, before I had time to pick it up; and one of my boys, in bobbing for eels, caught one with a whole Rail in its belly.

“I have heard it observed, that on the increase of the moon the Rail improves in fatness, and decreases in a considerable degree with that planet. Sometimes I have conceived that the remark was just. If it be a fact, I think it may be explained on the supposition, that the bird is enabled to feed at night, as well as by day, while it has the benefit of the moon, and with less interruption than at other periods.”

GENUS LXXX. GALLINULA. GALLINULE.

SPECIES I. *G. MARTINICA.*

MARTINICO GALLINULE.*

[Plate LXXIII. Fig. 2.]

Gallinula Martinica, LATH. *Ind. Orn.* p. 769, 9. *Gen. Syn.* III., p. 255, 7, pl. 88.—*Fulica Martinica*, LINN. *Syst.* ed. 12, I., p. 259, 7.—*Fulica Martinicensis*, GMEL. *Syst.* p. 700, 7.—*La petite Poule-Sultane*, BRISS. *Orn.* v., p. 526, pl. 42, fig. 2.—BUFF. *Ois.* VIII., p. 206.—*La Favourite de Cayenne*, *Pl. Enl.* No. 897, young?

THIS splendid bird is a native of the southern parts of the continent of North America. I have never learned that it migrates as far north as Virginia, though it is probable that it may be occasionally seen in that state. It makes its appearance, in the Sea-islands of Georgia, in the latter part of April; and after spending the summer, it departs, with its young, in the autumn. The marshes of Mexico appear to be its winter residence. It frequents the rice fields and fresh-water ponds, in company with the Common Gallinule; but the latter, being of a more hardy nature, remains all winter, both in Georgia and Florida.

During its migration, this bird is frequently driven to sea, and I have known two or three instances of its having sought refuge on board of vessels. On the 24th May, 1824, a brig arrived at Philadelphia, from New Orleans, bringing a fine living specimen, which had flown on board of her in the Gulf Stream.

In the month of August, 1818, a storm drove another individual on board of a vessel, in her passage from Savannah to Philadelphia. This also lived for some time in Peale's Museum.

The Martinico Gallinule is a vigorous and active bird. It bites hard, and is quite expert in the use of its feet. When it seizes upon any substance with its toes, it requires a considerable effort to disengage it. Its toes are long, and spread greatly. It runs with swiftness; and, when walking, it jerks its tail in the manner of the Common Rail. Its manners and food are somewhat similar to those of the far-famed Purple Gallinule, whose history is so beautifully detailed in the works of Buffon.

* Named in the plate Purple Gallinule.

In its native haunts it is vigilant and shy ; and it is not easy to spring it, without the assistance of a dog.

The specimen, from which our drawing was taken, came from the state of Georgia. It is reduced, as well as the rest of the figures in the same plate, to one-half of the size of life.

Length from the tip of the bill to the end of the tail fourteen inches ; bill an inch and a quarter long, vermilion, greenish yellow at the tip ; irides pale cornelian ; naked crown dull azure ; head, part of the neck, throat and breast, of a rich violet purple ; back and scapulars olive green ; rump, tail and its coverts, brownish green ; sides of the neck, and wings, ultramarine, the latter tinged with green ; shoulders of wings rich azure ; inner webs of the quills and tail feathers dusky brown ; belly and thighs dull purplish black ; vent pure white ; tail rounded ; legs and feet greenish yellow, claws long, sharp, and of a pale flesh color ; span of the foot five inches.*

* From Mr. Ord's supplementary volume.

AMERICAN ORNITHOLOGY;
OR, THE
NATURAL HISTORY
OF THE
BIRDS OF THE UNITED STATES.

ILLUSTRATED WITH PLATES
ENGRAVED FROM DRAWINGS FROM NATURE.

BY
ALEXANDER WILSON
AND
CHARLES LUCIAN BONAPARTE.

POPULAR EDITION.

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see of the same name
see of the same name

AMERICAN ORNITHOLOGY.

ORDER VIII. PINNATIPEDES. PINNATED FEET.

GENUS LXXXII. PHALAROPUS. PHALAROPE.

SPECIES I. *P. FULICARIUS*.

GRAY PHALAROPE.*

[Plate LXXIII. Fig. 4.]

Tringa Fulcaria, LINN. *Syst.* ed. 10, tom. 1., p. 148, 6.—*Tringa glacialis*, GMEL. *Syst.* 1., p. 675, 2. *T. hyperborea*, var. *b.*, Id. p. 676.—*Le Phalarope*, BRISS. *Orn.* VI., p. 12, No. 1. *Phalaropus rufescens*, Id. p. 20.—*Phalaropus lobatus*, LATH. *Ind. Orn.* p. 776, 2. *P. glacialis*, Id. No. 3. *Red Phalarope*, fem. *Gen. Syn.* III., p. 271. *Gray Phalarope*, Id. p. 272, 2. *Plain Phalarope*, Id. p. 273, 3.—*Gray Phalarope*, PENN. *Brit. Zool.* No. 218. *Arct. Zool.* No. 412. *Red Phalarope*, Id. No. 413. *Plain Phalarope*, Id. No. 415. *Red Coot-footed Tringa*, EDWARDS, pl. 142. *Gray Coot-footed Tringa*, Id. *Gleanings*, Pl. 308.—*Le Phalarope rouge*, BUFF. *Ois.* VIII., p. 225. *Le Phalarope à festons dentelés*, Id. p. 226.—*Gray Phalarope*, MONTAGU, *Orn. Dic. and Appendix to Sup.*—BEWICK, II., p. 132.—*Le Phalarope gris*, CUV. *Reg. An.* I., p. 492. *Le Phalarope rouge*, Id. *Ibid.*—*Phalaropus platyrhynchus*, TEMM. *Man. d'Orn.* p. 712.

BILL pretty stout and wide, slightly compressed at the tip, depressed on the lower half, upper mandible carinate; nostrils subovate, a short distance from the base; feet semipalmate, lobes of the toes broad and greatly scalloped; hind toe barely touching the ground.

Bill reddish orange at the base, the remainder black, an inch long; front and crown black, barred transversely with lines of white; throat, sides of the neck, and lower parts, white, thickly and irregularly barred with curving dashes of reddish chocolate; upper parts of a deep cinereous blue, streaked with brownish yellow and black; the black scapulars broadly edged with brownish yellow; wings and rump dark cinereous; greater wing-coverts broadly tipped with white, forming a large band; primaries nearly black, and crossed with white below the coverts; tail plain olive, middle of its coverts black, their sides bright brownish

* Named in the plate Red Phalarope.

yellow; vent white, those feathers immediately next to the tail reddish chocolate; legs black on the outside, yellowish within.

Length nine inches, breadth fifteen inches and a half; length of hind toe, independent of the claw, one-eighth of an inch. Male?

The inner toe is connected to the middle one, by a membrane, as far as the first joint, the outer toe much further; hence the feet may be properly termed semipalmate; webs and lobes finely pectinated. This conformation of the feet is pretty accurately exhibited in Edwards's plate, No. 308.

The Gray Phalarope is a rare bird in Pennsylvania; and is not often met with in any part of the United States. The individual from which our figure and description were taken, was shot in a pond, in the vicinity of Philadelphia, in the latter part of May, 1812. There were three in company. The person who shot it had never seen one of the species before, and was struck with their singular manners. He described them as swimming actively near the margin of the pond, dipping in their bill very often, as if feeding, and turning frequently. In consequence of our specimen being in a state of putridity when received, it was preserved with considerable difficulty, and the sex could not be ascertained.

In the spring of the year 1816, my friend, Mr. Le Sueur, shot in Boston Bay a young individual of this species: crown dark slate, tinged with yellowish brown; front, throat, line over the eye, belly and vent, white; shoulders, breast and sides, tawny or fawn color; back dark slate, paler near the rump, the feathers edged with bright yellow ochre; wings pale cinereous, some of the lesser coverts edged with white, the greater coverts largely so, forming the bar; primaries and tail black, the latter edged with yellowish brown, the shafts of the former white. Bill and feet as in the first described.

On the 20th of March, 1818, I shot in the river St. John, in East Florida, an immature female specimen: irides dark brown; around the base of the bill a slight marking of dark slate; front and crown white, mottled with pale ash; at the anterior part of each eye a black spot; beneath the eyes dark slate, which extends over the auriculars, the hind-head, and upper part of the neck; upper parts cinereous gray, with a few faint streaks of slate; throat, breast, whole lower parts, and under tail-coverts, pure white; flanks with a few faint ferruginous stains; wings slate brown, the coverts of the secondaries, and a few of the primary coverts, largely tipped with white, forming the bar as usual; tail brown, edged with cinereous; legs and feet pale plumbeous, the webs, and part of the scalloped membranes, yellowish. Bill and size as in the first specimen.

The tongue of this species is large, fleshy and obtuse.

A reference to the head of this article will show the variety of names

under which this bird has been described. What could induce that respectable naturalist, M. Temminck, to give it a new appellation, we are totally at a loss to conceive. That his name is good, that it is even better than all the rest, we are willing to admit; but that he had no right to give it a new name, we shall boldly maintain, not only on the score of expediency, but of justice. If the right to change be once conceded, there is no calculating the extent of the confusion in which the whole system of nomenclature will be involved. The study of methodical natural history is sufficiently laborious, and whatever will have a tendency to diminish this labor, ought to meet the cordial support of all those who are interested in the advancement of the natural sciences.

"The study of Natural History," says the present learned president of the Linnean Society, "is, from the multitude of objects with which it is conversant, necessarily so encumbered with names, that students require every possible assistance to facilitate the attainment of those names, and have a just right to complain of every needless impediment. Nor is it allowable to alter such names, even for the better. In our science the names established throughout the works of Linnæus are become current coin, nor can they be altered without great inconvenience."*

That there is a property in names as well as in things, will not be disputed; and there are few naturalists who would not feel as sensibly a fraud committed on their nomenclature as on their purse. The ardor with which the student pursues his researches, and the solicitude which he manifests in promulgating his discoveries under appropriate appellations, are proofs that at least part of his gratification is derived from the supposed distinction which a name will confer upon him; deprive him of this distinction, and you inflict a wound upon his self-love, which will not readily be healed.

To enter into a train of reasoning to prove that he who first describes and names a subject of natural history, agreeably to the laws of systematic classification, is for ever entitled to his name, and that it cannot be superseded without injustice, would be useless, because they are propositions which all naturalists deem self-evident. Then how comes it, whilst we are so tenacious of our own rights, we so often disregard those of others?

I would now come to the point. It will be perceived that I have ventured to restore the long neglected name of *fulicaria*. That I shall be supported in this restoration I have little doubt, when it shall have been manifest that it was Linnæus himself who first named this species. A

* An Introduction to Physiological and Systemical Botany, chap. 22.

reference to the tenth edition of the *Systema Naturæ** will show that the authority for *Tringa julicaria* is Edwards's Red Coot-footed *Tringa*, pl. 142, and that alone, for it does not appear that Linnæus had seen the bird. The circumstance of the change of the generic appellation can in nowise affect the specific name; the present improved state of the science requires the former, justice demands that the latter should be preserved. In this work I have preserved it; and I flatter myself that this humble attempt to vindicate the rights of Linnæus will be approved by all those who love those sciences, of which he was so illustrious a promoter.†

SPECIES II. *PHALAROPUS LOBATUS*.

BROWN PHALAROPE.‡

[Plate LXXIII. Fig. 3.]

Tringa lobata, LINN. *Syst.* ed. 10, tom. 1., p. 148, 5. *T. hyperborea*, Id. ed. 12, tom. 1., p. 249, 9.—*Tringa lobata*, GMEL. *Syst.* 1., p. 674, 6. *T. fusca*, Id. p. 675, 33. *T. hyperborea*, Id. No. 9.—*Phalaropus cinereus*, BRISS. *Orn.* vi., p. 15. *P. fuscus*, Id. p. 18.—*Le Phalarope cendre*, BUFF. *Ois.* viii., p. 224. *Pl. Enl.* 766.—*Coot-footed Tringa*, EDWARDS, pl. 46. *Cock Coot-footed Tringa*, Id. pl. 143.—*Red Phalarope*, PENN. *Brit. Zool.* No. 219. *Brown Phalarope*, *Arct. Zool.* No. 414.—*Phalaropus hyperboreus*, LATH. *Ind. Orn.* p. 775, 1. *P. fuscus*, Id. p. 776, 4. *Red Phalarope*, *Gen. Syn.* iii., p. 270, 1. Id. p. 272, var. A. *Brown Phalarope*, Id. p. 274, 4.—*Red Phalarope*, MONTAGU, *Orn. Dic.* Id. Sup. and Appendix.—*Phalaropus hyperboreus*, TEMM. *Man. d'Orn.* p. 709.—*Le Lobipede à hausse-col*, GUY. *Rej. An.* 1, p. 495.

OF this species only one specimen was ever seen by Wilson, and that was preserved in Trowbridge's Museum, at Albany, in the state of New York. On referring to Wilson's Journal, I found an account of the bird, there called a *Tringa*, written with a lead pencil, but so scrawled and obscured, that parts of the writing were not legible. I wrote to Trowbridge, soliciting a particular description, but no answer was

* Of all the editions of the *Systema Naturæ*, the tenth and the twelfth are the most valuable; the former being the first which contains the synonyma, and the latter being that which received the finishing hand of its author. In the United States, Linnæus is principally known through two editors:—Gmelin, whose thirteenth edition of the *Systema Naturæ* has involved the whole science in almost inextricable confusion, and Turton, whose English translation of Gmelin is a disgrace to science and letters. All writers on Zoology and Botany should possess Linnæus's tenth and twelfth editions; they will be found to be of indispensable use in tracing synonymes, and fixing nomenclature.

† From Mr. Ord's supplementary volume.

‡ Named in the plate Gray Phalarope.

returned. However, having had the good fortune, since publishing the first edition, of examining a fine recent specimen of this rare bird, I hope I shall be enabled to fix the species by such characters, as will prevent any ornithologist in future from confounding it with the species which follows; two birds which, owing to a want of precision, were involved in almost inextricable confusion, until Temminck applied himself to the task of disembroiling them; and this ingenious naturalist has fully proved that the seven species of authors constituted, in effect, only two species.

Temminck's distinctive characters are drawn from the bill; and he has divided the genus into two sections, an arrangement the utility of which is not evident, seeing that each section contains but one species; unless we may consider that the Barred Phalarope of Latham constitutes a third: a point not yet ascertained, and not easy to be settled, for the want of characters.

In my examination of these birds, I have paid particular attention to the feet, which possess characters equally striking with those of the bill: hence a union of all these will afford a facility to the student, of which he will be fully sensible, when he makes them the subject of his investigation.

Our figure of this species betrays all the marks of haste; it is inaccurately drawn, and imperfectly colored; notwithstanding, by a diligent study of it, I have been enabled to ascertain, that it is the Coot-footed *Tringa* of Edwards, pl. 46, and 143, to which bird Linnaeus gave the specific denomination of *lobata*, as will be seen in the synonymes at the head of this article. In the twelfth edition of the *Systema Naturæ*, the Swedish naturalist, conceiving that he might have been in error, omitted, in his description of the *lobata*, the synonyme of Edwards's Coot-footed *Tringa*, No. 143, and recorded the latter bird under the name of *hyperborea*, a specific appellation which Temminck, and other ornithologists, have sanctioned, but which the laws of methodical nomenclature prohibit us from adopting, as, beyond all question, *hyperborea* is only a synonyme of *lobata*, which has the priority, and must stand.

M. Temminck differs from us in the opinion, that the *T. lobata* of Gmelin, vol. 1, p. 674, is the present species, and refers it to that which follows. But if this respectable ornithologist will take the trouble to look into the twelfth edition of Linnaeus, vol. 1, p. 249, No. 8, he will there find two false references, Edwards's No. 308, and Brisson's No. 1, which gave rise to Gmelin's confusion of synonymes, and a consequent confusion in his description, as the essential character in both authors being in nearly the same words, (*rostrum subulato, apice inflexo, &c.*) we are at no loss to infer that both descriptions have reference to the same bird; and we are certain that the *lobata* of the twelfth edition of the

former is precisely the same as that of the tenth edition, which cites for authority Edwards's 46 and 143, as before mentioned.

I shall now give the short description of the bird figured in the plate, as I find it in Wilson's note book.

Bill black, slender, and one inch and three eighths* in length, lores, front, crown, hind-head, and thence to the back, very pale ash, nearly white; from the anterior angle of the eye a curving stripe of black descends along the neck for an inch or more; thence to the shoulders dark reddish brown, which also tinges the white on the side of the neck next to it; under parts white; above dark olive; wings and legs black. Size of the Turn-stone.

The specimen from which the following description was taken, was kindly communicated to me by my friend, Mr. Titian R. Peale, while it was yet in a recent state, and before it was prepared for the museum. It was this individual which enabled me to ascertain the species figured in our plate. It was shot in the neighborhood of Philadelphia, on the seventh of May, 1818.

Bill narrow, slender, flexible, subulate, of equal width; nostrils basal and linear; lobes of the toes thick, narrow, and but slightly scalloped; outer toe connected to the middle one as far as the first joint, inner toe divided nearly to its base; hind toe resting on the ground.

Bill black, one inch and three-eighths in length; head above of an ash gray; hind-head whitish, which color extends a short distance down the neck; over the eyes a white stripe, below them a white spot; throat and lower parts white; a line of black passes through the eyes, spreads out towards the hind-head, and descends along the neck; lower part of the neck pale ferruginous; back part of the neck deep ferruginous, which descends on each side, and mingles with the plumage of the back and scapulars, which are of a clove brown, the feathers tipped with whitish; wings and tail dark clove brown, some of the lesser coverts having a reddish tinge; the upper tail feathers tinged with red at their tips, the under feathers marked with white on their inner webs; irides dark brown; legs and feet dark plumbeous; claws long, of a dark horn color; hind toe, independent of the claw, five-sixteenths of an inch long; the tertials, when the wing is closed, extend to within three-eighths of an inch of the tip of the primaries; weight an ounce and three-quarters; length nine inches and a half, breadth sixteen inches. This was a female, her eggs very small.

In the grand chain of animated nature, the Phalaropes constitute one

* In the original the bill is said to be one inch and three-quarters long; but that this is a mistake, we have only to measure the bill of the figure, drawn of half the size of nature, to be convinced. Wilson always measured his bills from the tip to the angle of the mouth. Our figure, by this admeasurement, indicates a bill of precisely the length of that of Peale's specimen, which I have described in detail.

of the links between the waders and the web-footed tribes, having the form of the Sandpipers, with some of the habits of the gulls: the scalloped membranes on their toes enabling them to swim with facility. They are clothed with a thick coat of feathers, beneath which, as in the Ducks, lies a mass of down, to protect them from the rigors of the northern climates, of which they are natives. They do not appear to be fond of the neighborhood of the ocean, and are generally found in the interior, about the lakes, ponds, and streams of fresh water, where they delight to linger, swimming near the margin in search of seeds and insects.

They are nowhere numerous, are commonly seen in pairs, and are so extremely tame and unsuspicious, that one may approach to within a few feet of them.

The genus *Lobipes*, of the Baron Cuvier, is founded upon this species; and it must be confessed, that its characters are sufficiently distinct, from those of the bird which follows, to authorize such a separation; but unless some new species should be discovered, we see no impropriety in associating the two birds already known, taking care, however, to preserve a consistency in the generic characters, which Temminck, in his Manuel, has not sufficiently observed.

In the appendix to Montagu's Supplement to the Ornithological Dictionary, we find the following remarks on this species, there named *fulicaria*: "We have before mentioned, that this bird had been observed in the Orkneys, in considerable abundance, in the summer, and that no doubts were entertained of its breeding there, although the nest had not been found. To Mr. Bullock, therefore, we are indebted for the further elucidation of the natural history of this elegant little bird. In a letter to the author, this gentleman says, 'I found the Red Phalarope common in the marshes of Sanda and Westra, in the breeding season, but which it leaves in the autumn. This bird is so extremely tame that I killed nine without moving out of the same spot, being not in the least alarmed at the report of a gun. It lays four eggs, of the shape of that of a snipe, but much less, of an olive color, blotched with dusky. It swims with the greatest ease, and when on the water looks like a beautiful miniature of a duck, carrying its head close to the back, in the manner of a Teal.' "

Mr. Bullock further observes, "that the plumage of the female is much lighter, and has less of the rufous than the other sex."*

NOTE.—Since the foregoing was written, I have had an opportunity of examining the identical specimen, from which Wilson's drawing was taken, as it still remains in the Albany Museum. It is of the same

* From Mr. Ord's supplementary volume.

species as the individual in the Philadelphia Museum, and which is described above, in detail. That Edwards's plate 46 represents this very bird, I have little hesitation in reasserting, notwithstanding all that that has been advanced to the contrary, in some recent publications. Let it be remembered, that Edwards expressly informs us, his bird was captured on board of a vessel, on the coast of Maryland, it having been driven thither by an off-shore wind. At the foot of plate 308, Edwards has represented the bill of this Phalarope, as well as that of the *fulcarius*.

GENUS LXXXIII. FULICA. COOT.

SPECIES VIII. *F. AMERICANA*.

CINEREOUS COOT.*

[Plate LXXIII. Fig. 1.]

Fulica Americana, GMEL. *Syst.* I., p. 704, 23.—LATH. *Ind. Orn.* p. 779, 5.—*Cinereous Coot*, *Gen. Syn.* III., p. 279.

THIS species makes its appearance in Pennsylvania about the first of October. Among the muddy flats and islands of the river Delaware, which are periodically overflowed, and which are overgrown with the reed or wild-oats, and rushes, the Coots are found. They are not numerous, and are seldom seen, except their places of resort be covered with water: in that case they are generally found sitting on the fallen reed, waiting for the ebbing of the tide, which will enable them to feed. Their food consists of various aquatic plants, seeds, insects, and, it is said, small fish. The Coot has an aversion to take wing, and can seldom be sprung in its retreat at low water; for although it walks rather awkwardly, yet it contrives to skulk through the grass and reeds with great speed, the compressed form of its body, like that of the Rail genus, being well adapted to the purpose. It swims remarkably well, and, when wounded, will dive like a duck. When closely pursued in the water, it generally takes to the shore, rising with apparent reluctance, like a wounded duck, and fluttering along the surface with its feet pattering on the water.† It is known in Pennsylvania by the name of the Mud-hen.

I have never yet discovered that this species breeds with us; though

* Named in the plate Common Coot.

† In Carolina they are called *Flusterers*, from the noise they make in flying along the surface of the water. A voyage to Carolina by John Lawson, p. 149.

it is highly probable that some few may occupy the marshes of the interior, in the vicinity of the ponds and lakes, for this purpose: those retired situations being well adapted to the hatching and rearing of their young. In the Southern States, particularly South Carolina, they are well known; but the Floridas appear to be their principal rendezvous, for the business of incubation. "The Coot," says William Bartram, "is a native of North America, from Pennsylvania to Florida. They inhabit large rivers, fresh-water inlets or bays, lagoons, &c., where they swim and feed amongst the reeds and grass of the shores; particularly in the river St. Juan, in East Florida, where they are found in immense flocks. They are loquacious and noisy, talking to one another night and day; are constantly on the water, the broad lobated membranes on their toes enabling them to swim and dive like ducks."*

I observed this species to be numerous, during the winter, in the fresh water ponds, situated in the vicinity of the river St. Juan or St. John, in East Florida; but I did not see them in the river. The food which they obtain in these places must be very abundant and nutritious; as the individuals which I shot were excessively fat.

One male specimen weighed twenty-four ounces, avoirdupois. They associate with the Common Gallinule (*Gallinula chloropus*); but there is not, perhaps, one of the latter for twenty of the former. The Cinerous Coot is sixteen inches in length, and twenty-eight in extent; bill one and a half inch long, white, the upper mandible *slightly notched* near the tip, and marked across with a band of chestnut, the lower mandible marked on each side with a squarish spot of the like color, edged on the lower part with a bright yellow or gamboge, thence to the tip pale horn color; membrane of the forehead, dark chestnut brown; irides cornelian red; beneath the eyes, in most specimens, a whitish spot; the head and neck are of a deep shining black, resembling satin; back and scapulars dirty greenish olive; shoulders, breast, and wing-coverts, slate blue; the under parts are hoary; vent black; beneath the tail pure white; primaries and secondaries slate, the former tipped with black, the latter with white, which does not appear when the wing is closed; outer edges of the wings white; legs and toes yellowish green, the scalloped membrane of the latter lead color; middle toe, including the claw, three inches and three-quarters long.

The bird from which the foregoing description was taken, was shot on the Delaware, below Philadelphia, the 29th of October, 1813. It was an old male, an uncommonly fine specimen, and weighed twenty-three ounces avoirdupois. It was deposited in Peale's Museum.

The young birds differ somewhat in their plumage, that of the head

* Letter from Mr. Bartram to the author.

and neck being of a brownish black ; that of the breast and shoulders pale ash ; the throat gray or mottled ; the bill bluish white ; and the membrane on the forehead considerably smaller.

The young females very much resemble the young males ; all the difference which I have been enabled to perceive is as follows : breast and shoulders cinereous ; markings on the bill less ; upper parts of the head, in some specimens, mottled ; and being less in size.

The lower parts of these birds are clothed with a thick down, and, particularly between the thighs, covered with close fine feathers. The thighs are placed far behind, are fleshy, strong, and bare above the knees.

The gizzard resembles a hen's, and is remarkably large and muscular. That of the bird which has been described, was filled with sand, gravel, shells, and the remains of aquatic plants.

Buffon describes the mode of shooting Coots in France, particularly in Lorraine, on the great pools of Tiaucourt and of Indre ; hence we are led to suppose that they are esteemed as an article of food. But with us who are enabled, by the abundance and variety of game, to indulge in greater luxuries in that season when our Coots visit us, they are considered as of no account, and are seldom eaten.

The European ornithologists represent the membrane on the forehead of the *Fulica atra* as white, except in the breeding season, when it is said to change its color to pale red. In every specimen of the Cinereous Coot which I have seen, except one, the membrane of the forehead was of a dark chestnut brown color. The one alluded to was a fine adult male, shot in the Delaware, at Philadelphia, on the eleventh of May ; the membrane was of a *pure white* ; no white marking beneath the eye ; legs and feet of a bright grass green.

In Wilson's figure of the Coot, accompanying this volume, there are some slight errors : the auriculars are designated, which should not have been done, as they are not distinguishable from the rest of the plumage of the head and neck, which is all of a fine satiny texture ; and the outline of the bill is not correct.

Latham states that the Common European Coot, *F. atra*, is "met with in Jamaica, Carolina, and other parts of North America." This I presume is a mistake, as I have never seen but one species of Coot in the United States. Brown, in speaking of the birds of Jamaica, mentions a Coot, which, in all probability, is the same as ours. The Coot mentioned by Sloane, is the Common Gallinule. So is also that spoken of in the Natural History of Barbadoes, by Hughes, p. 71.

In Lewis and Clark's History of their expedition, mention is made of a bird, which is common on the Columbia ; is said to be very noisy, to have a sharp, shrill whistle, and to associate in large flocks ; it is

called the *Black Duck*.^{*} This is doubtless a species of Coot, but whether or not different from ours cannot be ascertained. How much is it to be regretted, that in an expedition of discovery, planned and fitted out by an enlightened government, furnished with every means for safety, subsistence and research, not one naturalist, not one draftsman, should have been sent, to observe and perpetuate the infinite variety of natural productions, many of which are entirely unknown to the community of science, which that extensive tour must have revealed!

The Coot leaves us in November, for the southward.

The foregoing was prepared for the press, when the author, in one of his shooting excursions on the Delaware, had the good fortune to kill a full plumaged female Coot. This was on the twentieth of April. It was swimming at the edge of a cripple or thicket of alder bushes, busily engaged in picking something from the surface of the water, and while thus employed it turned frequently. The membrane on its forehead was very small, and edged on the fore part with gamboge. Its eggs were of the size of partridge shot. And on the thirteenth of May, another fine female specimen was presented to him, which agreed with the above, with the exception of the membrane on the forehead being nearly as large and prominent as that of the male. From the circumstance of the eggs of all these birds being very small, it is probable that the Coots do not breed until July.

^{*} History of the Expedition, vol. ii., p: 194. Under date of November 30th, 1805, they say: "The hunters brought in a few *black ducks* of a species common in the United States, living in large flocks, and feeding on grass; they are distinguished by a *sharp white beak, toes separated*, and by having *no craw*."

GENUS LXXXV. RECURVIROSTRA. AVOSET.

SPECIES I. *R. AMERICANA*.

AMERICAN AVOSET.

[Plate LXIII. Fig. 2.]

Arct. Zool. No. 421.—*LATH. Syn.* v. III., p. 295, No. 2.

THIS species, from its perpetual clamor, and flippancy of tongue, is called by the inhabitants of Cape May, the Lawyer; the comparison, however, reaches no farther: for our Lawyer is simple, timid, and perfectly inoffensive.

In describing the Long-legged Avoset of this volume, the similarity between that and the present was taken notice of. This resemblance extends to everything but their color. I found both these birds associated together in the salt marshes of New Jersey, on the twentieth of May. They were then breeding. Individuals of the present species were few in respect to the other. They flew around the shallow pools, exactly in the manner of the Long-legs, uttering the like sharp note of *click click click*, alighting on the marsh, or in the water, indiscriminately, fluttering their loose wings, and shaking their half-bent legs, as if ready to tumble over, keeping up a continual yelping note. They were, however, rather more shy, and kept at a greater distance. One which I wounded, attempted repeatedly to dive; but the water was too shallow to permit him to do this with facility. The nest was built among the thick tufts of grass, at a small distance from one of these pools. It was composed of small twigs, of a seaside shrub, dry grass, sea weed, &c., raised to the height of several inches. The eggs were four, of a dull olive color, marked with large irregular blotches of black, and with others of a fainter tint.

This species arrives on the coast of Cape May late in April; rears its young, and departs again to the south early in October. While here, it almost constantly frequents the shallow pools in the salt marshes; wading about, often to the belly, in search of food, viz., marine worms, snails, and various insects that abound among the soft muddy bottoms of the pools.

The male of this species is eighteen inches and a half long, and two feet and a half in extent; the bill is black, four inches in length, flat above, the general curvature upwards, except at the extremity, where

it bends slightly down, ending in an extremely fine point; irides reddish hazel; whole head, neck and breast, a light sorrel color; round the eye, and on the chin, nearly white; upper part of the back and wings black; scapulars, and almost the whole back, white, though generally concealed by the black of the upper parts; belly, vent and thighs, pure white; tail equal at the end, white, very slightly tinged with cinereous; tertials dusky brown; greater coverts tipped with white; secondaries white on their outer edges, and whole inner vanes; rest of the wing deep black; naked part of the thighs two and a half inches; legs four inches, both of a very pale light blue, exactly formed, thinned and netted, like those of the Long-legs; feet half-webbed; the outer membrane somewhat the broadest; there is a very slight hind toe, which, claw and all, does not exceed a quarter of an inch in length. In these two latter circumstances alone it differs from the Long-legs; but is in every other strikingly alike.

The female was two inches shorter, and three less in extent; the head and neck a much paler rufous, fading almost to white on the breast; and separated from the black of the back by a broader band of white; the bill was three inches and a half long; the leg half an inch shorter; in every other respect marked as the male. She contained a great number of eggs, some of them nearly ready for exclusion. The stomach was filled with small snails, periwinkle shell-fish, some kind of mossy vegetable food, and a number of aquatic insects. The intestines were infested with tape-worms, and a number of smaller bot-like worms, some of which wallowed in the cavity of the abdomen.

In Mr. Peale's collection there was one of this same species, said to have been brought from New Holland, differing little in the markings of its plumage from our own. The red brown on the neck does not descend so far, scarcely occupying any of the breast; it is also somewhat less.*

In every stuffed and dried specimen of these birds which I have examined, the true form and flexure of the bill is altogether deranged; being naturally of a very tender and delicate substance.

NOTE.—It is remarkable, that, in the Atlantic States, this species invariably affects the neighborhood of the ocean; we never having known an instance of its having been seen in the interior; and yet Captain Lewis met with this bird at the ponds, in the vicinity of the Falls of the Missouri. That it was our species, I had ocular evidence, in a skin brought by Lewis himself, and presented, among other specimens of natural history, to the Philadelphia Museum. See *History of Lewis and Clarke's Expedition*, vol. II., p. 343.—*G. Ord*.

* This is a different species; it is the *R. rubricollis* of Temminck, Manuel d'Ornithologie, p. 592.

SPECIES II. *RECURVIROSTRA HIMANTOPUS*.*

LONG-LEGGED AVOSET.

[Plate LVIII. Fig. 2.]

Long-legged Plover, *Arct. Zool.* p. 487, No. 405.—TURTON, p. 416. BEWICK, II., 21.—*L'Echasse*, BUFF. VIII., 114. *Pl. Enl.* 878.

NATURALISTS have most unaccountably classed this bird with the genus *Charadrius*, or Plover, and yet affect to make the particular conformation of the bill, legs and feet, the rule of their arrangement. In the present subject, however, excepting the trivial circumstance of the want of a hind toe, there is no resemblance whatever of those parts to the bill, legs or feet, of the Plover; on the contrary, they are so entirely different, as to create no small surprise at the adoption, and general acceptance, of a classification, evidently so absurd and unnatural. This appears the more reprehensible, when we consider the striking affinity there is between this bird and the common Avoset, not only in the particular form of the bill, nostrils, tongue, legs, feet, wings and tail, but extending to the voice, manners, food, place of breeding, form of the nest, and even the very color of the eggs of both, all of which are strikingly alike, and point out, at once, to the actual observer of nature, the true relationship of these remarkable birds.

Strongly impressed with these facts, from an intimate acquaintance with the living subjects, in their native wilds, I have presumed to remove the present species to the true and proper place assigned it by nature; and shall now proceed to detail some particulars of its history.

This species arrives on the seacoast of New Jersey about the twenty-fifth of April, in small detached flocks, of twenty or thirty together. These sometimes again subdivide into lesser parties; but it rarely happens that a pair is found solitary, as during the breeding season they usually associate in small companies. On their first arrival, and indeed during the whole of their residence, they inhabit those particular parts of the salt marshes pretty high up towards the land, that are broken into numerous shallow pools, but are not usually overflowed by the tides during the summer. These pools, or ponds are generally so shallow, that with their long legs the Avosets can easily wade them in every direction, and as they abound with minute shell-fish, and multitudes of

* This bird belongs to the genus *Himantopus* of Brisson.

aquatic insects and their larvæ, besides the eggs and spawn of others deposited in the soft mud below, these birds find here an abundant supply of food, and are almost continually seen wading about in such places, often up to the breast in water.

In the vicinity of these *bald places*, as they are called by the country people, and at the distance of forty or fifty yards off, among the thick tufts of grass, one of these small associations, consisting perhaps of six or eight pair, takes up its residence during the breeding season. About the first week in May they begin to construct their nests, which are at first slightly formed of a small quantity of old grass, scarcely sufficient to keep the eggs from the wet marsh. As they lay and sit, however, either dreading the rise of the tides, or for some other purpose, the nest is increased in height, with dry twigs of a shrub very common in the marshes, roots of the salt grass, seaweed, and various other substances, the whole weighing between two and three pounds. This habit of adding materials to the nest, after the female begins sitting, is common to almost all other birds that breed in the marshes. The eggs are four in number, of a dark yellowish clay color, thickly marked with large blotches of black. These nests are often placed within fifteen or twenty yards of each other, but the greatest harmony seems to prevail among the proprietors.

While the females are sitting, the males are either wading through the ponds, or roaming over the adjoining marshes; but should a person make his appearance, the whole collect together in the air, flying with their long legs extended behind them, keeping up a continual yelping note of *click click click*. Their flight is steady, and not in short sudden jerks like that of the Plover. As they frequently alight on the bare marsh, they drop their wings, stand with their legs half bent, and tremble as if unable to sustain the burden of their bodies. In this ridiculous posture they will sometimes stand for several minutes, uttering a curring sound, while from the corresponding quiverings of their wings and long legs, they seem to balance themselves with great difficulty. This singular manœuvre is, no doubt, intended to induce a belief that they may be easily caught, and so turn the attention of the person from the pursuit of their nests and young to themselves. The Red-necked Avoset, which we have introduced in the present volume, practises the very same deception, in the same ludicrous manner, and both alight indiscriminately on the ground, or in the water. Both will also occasionally swim for a few feet, when they chance in wading to lose their depth, as I have had several times an opportunity of observing.

The name by which this bird is known on the seacoast is the Stilt, or Tilt, or Long-shanks. They are but sparingly dispersed over the marshes, having, as has been already observed, their particular favorite spots; while in large intermediate tracts, there are few or none to be

found. They occasionally visit the shore, wading about in the water, and in the mud, in search of food, which they scoop up very dexterously with their delicately formed bills. On being wounded while in the water, they attempt to escape by diving, at which they are by no means expert. In autumn, their flesh is tender, and well tasted. They seldom raise more than one brood in the season, and depart for the south early in September. As they are well known in Jamaica, it is probable some of them may winter in that and other of the West India Islands.

Mr. Pennant observes that this bird is not a native of northern Europe; and there have been but few instances where it has been seen in Great Britain. It is common, says Latham, in Egypt, being found there in the marshes in October. It is likewise plentiful about the salt lakes; and is often seen on the shores of the Caspian Sea, as well as by the rivers which empty themselves into it; and in the southern deserts of Independent Tartary. The same author adds, on the authority of Ray, that it is known at Madras in the East Indies.

All the figures and descriptions which I have seen of this curious bird, represent the bill as straight, and of almost an equal thickness throughout, which I have never found so in any of the numerous specimens I have myself shot and examined. Many of these accounts, as well as figures, have been taken from dried and stuffed skins, which give but an imperfect, and often erroneous, idea of the true outlines of nature. The dimensions, colors and markings, of a very beautiful specimen, newly shot, were as follow:

Length from the point of the bill to the end of the tail fourteen inches, to the tips of the wings sixteen; extent twenty-eight inches; bill three inches long, slightly curved upwards, tapering to a fine point, the upper mandible rounded above, the whole of a deep black color; nostrils an oblong slit, pervious; tongue short, pointed; forehead, spot behind the eye, lower eyelid, sides of the neck, and whole lower parts, pure white; back, rump and tail coverts, also white, but so concealed by the scapulars as to appear black; tail even, or very slightly forked, and of a dingy white; the vent feathers reach to the tip of the tail below; line before the eye, auriculars, back part of the neck, scapulars, and whole wings, deep black, richly glossed with green; legs and naked thighs a fine pale carmine; the latter measure three, the former four inches and a half in length, exceedingly thin, and *so flexible that they may be bent considerably without danger of breaking.* This thinness of the leg enables the bird to wade with expedition, and without fatigue. Feet three-toed, the outer toe connected to the middle one by a broad membrane; wings long, extending two inches beyond the tail, and sharp pointed; irides a bright rich scarlet; pupil black. In some, the white from the breast extends quite round the neck, sepa-

rating the black of the hind neck from that of the body; claws blackish horn.

The female is about half an inch shorter, and differs in having the plumage of the upper back and scapulars, and also the tertials, of a deep brown color. The stomach, or gizzard, was extremely muscular, and contained fragments of small snail shells, winged bugs, and a slimy matter, supposed to be the remains of some aquatic worms. In one of these females I counted upwards of one hundred and fifty eggs, some of them as large as buckshot. The singular form of the legs and feet, with the exception of the hind toe and one membrane of the foot, is exactly like those of the Avoset. The upward curvature of the bill, though not quite so great, is also the same as in the other, being rounded above, and tapering to a delicate point in the same manner. In short, a slight comparison of the two is sufficient to satisfy the most scrupulous observer, that nature has classed these two birds together; and so believing, we shall not separate them.

GENUS LXXXVII. PHŒNICOPTERUS. FLAMINGO.

SPECIES. *P. RUBER.*

RED FLAMINGO.

[Plate LXVI. Fig. 4.]

Le Flamant, BRISS. VI., p. 533, pl. 47, fig. 1.—BUFF. VIII., p. 475, pl. 39. *Pl. Enl.* 63.—LATH. *Syn.* III., p. 299.—*Arct. Zool.* NO. 422.—CATESBY, I., pl. 73, 74.

THIS very singular species being occasionally seen on the southern frontiers of the United States, and on the peninsula of East Florida, where it is more common, has a claim to a niche in our Ornithological Museum, although the author regrets that from personal observation he can add nothing to the particulars of its history, already fully detailed in various European works. From the most respectable of these, the Synopsis of Dr. Latham, he has collected such particulars as appear authentic and interesting.

“This remarkable bird has the neck and legs in a greater disproportion than any other bird, the length from the end of the bill to that of the tail is four feet two or three inches, but to the end of the claws measures sometimes more than six feet. The bill is four inches and a quarter long, and of a construction different from that of any other bird; the upper mandible very thin and flat, and somewhat movable; the under thick, both of them bending downwards from the middle; the nostrils

are linear, and placed in a blackish membrane; the end of the bill as far as the bend is black, from thence to the base reddish yellow, round the base quite to the eye covered with a flesh-colored cere; the neck is slender, and of a great length; the tongue large, fleshy, filling the cavity of the bill, furnished with twelve or more hooked papillæ on each side, turning backwards; the tip a sharp cartilaginous substance. The bird when in full plumage is wholly of a most deep scarlet (those of Africa said to be the deepest), except the quills, which are black; from the base of the thigh to the claws measures thirty-two inches, of which the feathered part takes up no more than three inches; the bare part above the knee thirteen inches, and from thence to the claws sixteen; the color of the bare parts is red, and the toes are furnished with a web as in the Duck genus; but is deeply indented. *The legs are not straight, but slightly bent, the shin rather projecting.*

“These birds do not gain their full plumage till the third year. In the first they are of a grayish white for the most part; the second of a clearer white, tinged with red, or rather rose color; but the wings and scapulars are red; in the third year a general glowing scarlet manifests itself throughout; the bill and legs also keep pace with the gradation of color in the plumage, these parts changing to their colors by degrees as the bird approaches to an adult state.

“Flamingoes prefer a warm climate, in the old continent not often met with beyond forty degrees north or south. Everywhere seen on the African coast, and adjacent isles, quite to the Cape of Good Hope,* and now and then on the coasts of Spain,† Italy, and those of France lying in the Mediterranean Sea; being at times met with at Marseilles, and for some way up the Rhone. In some seasons frequents Aleppo,‡ and parts adjacent. Seen also on the Persian side of the Caspian Sea, and from thence along the western coast as far as the Wolga; though this at uncertain times, and chiefly in considerable flocks, coming from the north coast mostly in October and November; but so soon as the wind changes they totally disappear.§ They breed in the Cape Verd Isles, particularly in that of Sal.|| The nest is of a singular construction, made of mud, in shape of a hillock, with a cavity at top; in this the female lays generally two white eggs,¶ of the size of those of a Goose, but more elongated. The hillock is of such an height as to admit of the bird's sitting on it conveniently, or rather standing, as the legs are

* In Zee Coow river. Phil. Trans. Once plenty in the Isle of France. Voy. to Mauritius, p. 66.

† About Valencia, in the Lake Albufere. Dillon's Trav. p. 374.

‡ Russel's Aleppo, p. 69.

§ Decouv. Russ. II., p. 248.

|| Damp. Voy. I., p. 70.

¶ They never lay more than three, and seldom fewer. Phil. Trans.

placed one on each side at full length.* The young cannot fly till full grown, but run very fast.

“Flamingoes, for the most part, keep together in flocks; and now and then are seen in great numbers together, except in breeding time. Dampier mentions having, with two more in company, killed fourteen at once; but this was effected by secreting themselves; for they are very shy birds, and will by no means suffer any one to approach openly near enough to shoot them.† Kolben observes that they are very numerous at the Cape, keeping in the day on the borders of the lakes and rivers, and lodging themselves of nights in the long grass on the hills. They are also common to various places in the warmer parts of America, frequenting the same latitudes as in other quarters of the world; being met with in Peru, Chili, Cayenne,‡ and the coast of Brazil, as well as the various islands of the West Indies. Sloane found them in Jamaica; but particularly at the Bahama Islands, and that of Cuba, where they breed. When seen at a distance they appear as a regiment of soldiers, being arranged alongside of one another, on the borders of the rivers, searching for food, which chiefly consists of small fish,§ or the eggs of them, and of water insects, which they search after by plunging in the bill and part of the head; from time to time trampling with their feet to muddy the water, that their prey may be raised from the bottom. In feeding are said to twist the neck in such a manner that the upper part of the bill is applied to the ground;|| during this one of them is said to stand sentinel, and the moment he sounds the alarm, the whole flock take wing. This bird when at rest stands on one leg, the other being drawn up close to the body, with the head placed under the wing on that side of the body it stands on.

“The flesh of these birds is esteemed pretty good meat; and the young thought by some equal to that of a Partridge;¶ but the greatest dainty is the tongue, which was esteemed by the ancients an exquisite morsel.** Are sometimes caught young and brought up tame; but are ever impatient of cold, and in this state will seldom live a great while, gradually losing their color, flesh and appetite; and dying for want of

* Sometimes will lay the eggs on a projecting part of a low rock, if it be placed sufficiently convenient so as to admit of the legs being placed one on each side. Linn.

† Davies talks of the gunner disguising himself in an ox hide, and by this means getting within gun-shot. Hist. Barbadoes. p. 88.

‡ Called there by the name of Tococo.

§ Small shell fish. Gesner.

|| Linnæus. Brisson.

¶ Commonly fat and accounted delicate. Davies's Hist. Barbadoes. p. 88. The inhabitants of Provence always throw away the flesh, as it tastes fishy, and only make use of the feathers as ornaments to other birds at particular entertainments. Dillon's Trav. p. 374.

** See Plin. IX., cap. 48.

that food which in a state of nature, at large, they were abundantly supplied with."

GENUS XC. URIA. GUILLEMOT.

SPECIES. *URIA ALLE*.

LITTLE GUILLEMOT.*

[Plate LXXIV. Fig. 5.]

Uria alle, TEMM. *Man. d'Orn.* p. 928.—*Alca alle*, LINN. *Syst.* ed. 12, tom. i., p. 211, 5.—GMEL. *Syst.* i., p. 554, 5.—*Ind. Orn.* p. 795, 10.—*Uria minor*, BRISS. VI., p. 73, 2.—*Le Petit Guillemot femelle*, Pl. Enl. 917.—*Small black and white Diver*, EDWARDS, pl. 91.—*Little Auk*, LATH. *Gen. Syn.* III., p. 327.—PENN. *Arct. Zool.* No. 429.—BEWICK, II., p. 158.

OF the history of this little stranger, but few particulars are known. With us it is a very rare bird; and, when seen, it is generally in the vicinity of the sea. The specimen from which the figure in the plate was taken, was killed at Great Egg Harbor, in the month of December, 1811, and was sent to Wilson as a great curiosity. It measured nine inches in length, and fourteen in extent; the bill, upper part of the head, back, wings and tail, were black; the upper part of the breast and hind-head, were gray, or white mixed with ash; the sides of the neck, whole lower parts, and tips of secondaries, were pure white; feet and legs black, shins pale flesh color; above each eye there was a small spot of white; the lower scapulars streaked slightly with the same.

The little Guillemot is said to be but a rare visitant of the British Isles. It is met with in various parts of the north, even as far as Spitzbergen; is common in Greenland, in company with the black-billed Auk, and feeds upon the same kind of food. The Greenlanders call it the Ice-bird, from the circumstance of its being the harbinger of ice. It lays *two* bluish white eggs, larger than those of the Pigeon. It flies quick, and dives well; and is always dipping its bill into the water while swimming, or at rest on that element. Walks better on land than others of the genus. It grows fat in the stormy season, from the waves bringing plenty of crabs and small fish within its reach. It is not a very crafty bird, and may be easily taken. It varies to quite white; and sometimes is found with a reddish breast.†

To the anatomist, the internal organization of this species is deserving attention: it is so constructed as to be capable of contracting or dilating itself at pleasure. We know not what Nature intends by this conformation, unless it be to facilitate diving, for which the compressed

* Named in the plate Little Auk.

† Latham. Pennant.

form is well adapted; and likewise the body when expanded will be rendered more buoyant, and fit for the purpose of swimming upon the surface of the water.*

GENUS XCI. COLYMBUS. DIVER.

SPECIES. *C. GLACIALIS*.

GREAT NORTHERN DIVER, OR LOON.

[Plate LXXIV. Fig. 3.]

Colymbus glacialis, LINN. *Syst.* ed. 12, tom. 1., p. 221, 5. *C. immer*, Id. p. 222, No. 6. —*Ind. Orn.* p. 799, 1. *C. immer*, Id. p. 800, 2. —*Le grand Plongeon*, BRISS. VI., p. 105, pl. 10, fig. 1. *Le grand Plongeon tacheté*, Id. p. 120, pl. 11, fig. 2. —*Le grand Plongeon*, BUFF. *Ois.* VIII., p. 251. *L'Imbrin, ou grand Plongeon de la mer du nord*, Id. p. 258, tab. 22. *Pl. Enl.* 952. —*Northern Diver*, LATH. *Gen. Syn.* III., p. 337. *Imber Diver*, Id. p. 340. —PENN. *Brit. Zool.* No. 237, 238. *Arct. Zool.* No. 439, 440. —BEWICK, II., p. 168, 170. —MONTAGU, *Orn. Dic. Sup. App.* —LOW, *Fauna Orcadensis*, p. 108, 110. —*Plongeon Imbrin*, TEMM. *Man. d'Orn.* p. 910.

THIS bird in Pennsylvania is migratory. In the autumn it makes its appearance with the various feathered tribes that frequent our waters; and when the streams are obstructed with ice, it departs for the Southern States.† In the months of March and April it is again seen; and after lingering awhile, it leaves us for the purpose of breeding. The Loons are found along the coast as well as in the interior; but in the summer they retire to the fresh-water lakes and ponds. We have never heard that they breed in Pennsylvania; but it is said they do in Missibisci Pond, near Boston, Massachusetts. The female lays two large brownish eggs. They are commonly seen in pairs, and procure their food, which is fish, in the deepest water of our rivers, diving after it, and continuing under for a length of time. Being a wary bird, it is seldom they are killed, eluding their pursuers by their astonishing faculty of diving. They seem averse to flying, and are but seldom seen on the wing. They are never eaten.

The Loon is restless before a storm; and an experienced master of a coasting vessel informed me, that he always knew when a tempest was approaching by the cry of this bird, which is very shrill, and may be heard at the distance of a mile or more. The correctness of this observation I have myself since experienced, in a winter voyage on the southern coasts of the United States.

* From Mr. Ord's supplementary Volume.

† The Loon is said to winter in the Chesapeake Bay.

This species seldom visits the shores of Britain, except in very severe winters; but it is met with in the north of Europe, and spreads along the arctic coast as far as the mouth of the river Ob, in the dominions of Russia. It is found about Spitzbergen, Iceland and Hudson's Bay. Makes its nest, in the more northern regions, on the little isles of fresh-water lakes; every pair keep a lake to themselves. It sees well, flies very high, and, darting obliquely, falls secure into its nest. Appears in Greenland in April or the beginning of May; and goes away in September or October, on the first fall of snow.* It is also found at Nootka Sound,† and Kamtschatka.

The Barabinsians, a nation situated between the river Ob and the Irtysh, in the Russian dominions, tan the breasts of this and other water fowl, whose skins they prepare in such a manner as to preserve the down upon them; and, sewing a number of these together, they sell them to make pelisses, caps, &c. Garments made of these are very warm, never imbibing the least moisture; and are more lasting than could be imagined.‡

The natives of Greenland use the skins for clothing; and the Indians about Hudson's Bay adorn their heads with circlets of their feathers.§

Lewis and Clark's party, at the mouth of the Columbia, saw robes made of the skins of Loons;|| and abundance of these birds during the time that they wintered at Fort Clatsop on that river.¶

The Laplanders, according to Regnard, cover their heads with a cap made of the skin of a *Loom* (Loon), which word signifies in their language *lame*, because the bird cannot walk well. They place it on their head in such a manner, that the bird's head falls over their brow, and its wings cover their ears.

"Northern Divers," says Hearne, "though common in Hudson's Bay, are by no means plentiful; they are seldom found near the coast, but more frequently in fresh-water lakes, and usually in pairs. They build their nests at the edge of small islands, or the margins of lakes or ponds; they lay only two eggs, and it is very common to find only one pair and their young in one sheet of water: a great proof of their aversion to society. They are known in Hudson's Bay by the name of Loons." **

The Great Northern Diver measures two feet ten inches from the tip of the bill to the end of the tail, and four feet six inches in breadth; the bill is strong, of a glossy black, and four inches and three-quarters long to the corner of the mouth; the edges of the bill do not fit exactly

* Pennant.

† Cook's Last Voy. ii., p. 237, Am. ed.

‡ Latham.

§ Arctic Zoology.

|| Gass's Journal.

¶ History of the Expedition, vol. ii., p. 189.

** Hearne's Journey, p. 429, quarto.

into each other, and are ragged, the lower mandible separates into two branches, which are united by a thin elastic membrane, and are easily movable horizontally or receding from each other, so as to form a wider gap to facilitate the swallowing of large fish; tongue bifid; irides dark blood red; the head, and half of the length of the neck, are of a deep black, with a green gloss, and purple reflections; this is succeeded by a band, consisting of interrupted white and black lateral stripes, which encompasses the neck, and tapers to a point on its fore part, without joining—this band measures about an inch and a half in its widest part, and to appearance is not continuous on the back part of the neck, being concealed by some thick, overhanging, black feathers, but on separating the latter the band becomes visible: the feathers which form these narrow stripes are white, streaked down their centre with black, and, what is a remarkable peculiarity, their webs project above the common surface; below this a broad band of dark glossy green and violet, which is blended behind with the plumage of the back; the lower part of the neck, and the sides of the breast, are ribbed in the same manner as the band above; below the chin a few stripes of the same; the whole of the upper parts are of a deep black, slightly glossed with green, and thickly spotted with white, in regular transverse or semicircular rows, two spots on the end of each feather—those on the upper part of the back, shoulders, rump and tail coverts small and roundish, those on the centre of the back, square and larger, those on the scapulars are the largest, and of an oblong square shape; the wing feathers and tail are plain brown black, the latter composed of twenty feathers; the lower parts are pure white, a slight dusky line across the vent; the scapulars descend over the wing, when closed, and the belly feathers ascend so as to meet them, by which means every part of the wing is concealed, except towards the tip; the outside of the legs and feet is black, inside lead color; the leg is four inches in length, and the foot measures, along the exterior toe to the tip of its claw, four inches and three-quarters; both legs and feet are marked with five-sided polygons. Weight of the specimen described eight pounds and a half.

The adult male and female are alike in plumage.

The young do not appear to obtain their perfect plumage until the second or third year. One which I saw, and which was conjectured to be a yearling, had its upper parts of a brown or mouse color; a few spots on the back and scapulars; but none of those markings on the neck, which distinguish the full-grown male. Another had the whole upper parts of a pale brown; the plumage of part of the back and scapulars tipped with pale ash; the lower parts white, with a yellowish tinge; no bands on the neck, nor spots on the body.

The conformation of the ribs and bones of this species is remarkable, and merits particular examination.

In the account which some of the European ornithologists give of their Northern Diver, we presume there is an inaccuracy. They say it measures three feet six inches in length, and four feet eight in breadth; and weighs *sixteen pounds*. If this be a correct statement, it would lead to the surmise that our Diver is a different species; for of several specimens which we examined, the best and largest has been described for this work, the admeasurement of which bird comes considerably short of that of the European, mentioned above. The weight, as has been stated, was eight pounds and a half.

On a re-examination of the Supplement to the Ornithological Dictionary of Montagu, I find, upon this subject, the following remarks, which should seem to put the question at rest respecting the identity of the European and American species: "It should appear that the size of this species has been commonly exaggerated, or they must vary materially, since those which have come under our examination did not exceed ten pounds; and an old or matured male measured only two feet eight inches. A young female, before the plumage was perfected, weighed eight pounds six ounces, and measured two feet seven inches in length.

"A Northern Diver taken alive, was kept in a pond for some months, which gave us an opportunity of attending to its manners. In a few days it became extremely docile, would come at the call, from one side of the pond to the other, and would take food from the hand. The bird had received an injury in the head, which had deprived one eye of its sight, and the other was a little impaired, but notwithstanding, it could by incessantly diving, discover all the fish that was thrown into the pond. In defect of fish it would eat flesh.

"It is observable that the legs of this bird are so constructed and situated, as to render it incapable of walking upon them. This is probably the case with all the divers, as well as the Grebes.

"When this bird quitted the water, it shoved its body along upon the ground, like a seal, by jerks, rubbing the breast against the ground; and it returned again to the water in a similar manner. In swimming and diving,* only the legs are used, and not the wings, as in the Guillemot and Auk tribes; and by their situation so far behind, and their little deviation from the line of the body, the bird is enabled to propel itself in the water with great velocity in a straight line, as well as turn with astonishing quickness."†

* I have never seen this bird diving in pursuit of fish, but I have seen it in the act of diving to avoid danger, and took notice, that its wings, when beneath the surface of the water, did not lie close to the body, but they were not as much extended as when in the act of flying. They had no visible motion, hence the presumption is, that their only use is to balance the body.

† From Mr. Ord's supplementary volume.

GENUS XCII. RHYNCHOPS. SKIMMER.

SPECIES. *RHYNCHOPS NIGRA*.

BLACK SKIMMER, OR SHEARWATER.

[Plate LX. Fig. 4.]

Arct. Zool. No. 445.—CATESBY, I., 90.—*Le Bec en Ciseaux*, BUFF. VIII., 454, tab. 36.*

THIS truly singular fowl is the only species of its tribe hitherto discovered. Like many others, it is a bird of passage in the United States; and makes its first appearance, on the shores of New Jersey, early in May. It resides there, as well as along the whole Atlantic coast, during the summer; and retires early in September. Its favorite haunts are low sand-bars, raised above the reach of the summer tides; and also dry flat sands on the beach, in front of the ocean. On such places it usually breeds along the shores of Cape May, in New Jersey. On account of the general coldness of the spring there, the Shearwater does not begin to lay until early in June, at which time these birds form themselves into small societies, fifteen or twenty pair frequently breeding within a few yards of each other. The nest is a mere hollow, formed in the sand, without any materials. The female lays three eggs, almost exactly oval, of a clear white, marked with large round spots of brownish black, and intermixed with others of pale Indian ink. These eggs measure one inch and three-quarters, by one inch and a quarter. Half a bushel and more of eggs has sometimes been collected from one sand bar, within the compass of half an acre. These eggs have something of a fishy taste; but are eaten by many people on the coast. The female sits on them only during the night, or in wet and stormy weather. The young remain for several weeks before they are able to fly; are fed with great assiduity by both parents; and seem to delight in lying with loosened wings, flat on the sand, enjoying its invigorating warmth. They breed but once in the season.

The singular conformation of the bill of this bird has excited much surprise; and some writers, measuring the divine proportions of nature by their own contracted standards of conception, in the plenitude of their vanity have pronounced it to be "an awkward and defective

* *Pl. Enl.* 357.

instrument.”* Such ignorant presumption, or rather impiety, ought to hide its head in the dust on a calm display of the peculiar construction of this singular bird, and the wisdom by which it is so admirably adapted to the purposes, or mode of existence, for which it was intended. The Shearwater is formed for skimming, while on wing, the surface of the sea for its food, which consists of small fish, shrimps, young fry, &c., whose usual haunts are near the shore, and towards the surface. That the lower mandible, when dipped into and cleaving the water, might not retard the bird's way, it is thinned and sharpened like the blade of a knife; the upper mandible being at such times elevated above water, is curtailed in its length, as being less necessary, but tapering gradually to a point, that, on shutting, it may offer less opposition. To prevent inconvenience from the rushing of the water, the mouth is confined to the mere opening of the gullet, which indeed prevents mastication taking place there; but the stomach, or gizzard, to which this business is solely allotted, is of uncommon hardness, strength and muscularity, far surpassing, in these respects, any other water bird with which I acquainted. To all these is added a vast expansion of wing, to enable the bird to sail with sufficient celerity while dipping in the water. The general proportion of the length of our swiftest Hawks and Swallows, to their breadth, is as one to two; but in the present case, as there is not only the resistance of the air, but also that of the water, to overcome, a still greater volume of wing is given, the Shearwater measuring nineteen inches in length, and upwards of forty-four in extent. In short, whoever has attentively examined this curious apparatus, and observed the possessor with his ample wings, long bending neck, and lower mandible occasionally dipped into, and ploughing, the surface, and the facility with which he procures his food, cannot but consider it a mere playful amusement, when compared with the dashing immersions of the Tern, the Gull, or the Fish-Hawk, who, to the superficial observer, appear so superiorly accommodated.

The Shearwater is most frequently seen skimming close along shore, about the first of the flood, at which time the young fry, shrimp, &c., are most abundant in such places. There are also numerous inlets, among the low islands between the sea beach and main land of Cape May, where I have observed the Shearwaters, eight or ten in company, passing and repassing at high-water particular estuaries of those creeks that run up into the salt marshes, dipping, with extended neck, their open bills into the water, with as much apparent ease as Swallows glean up flies from the surface. On examining the stomachs of several of these, shot at the time, they contained numbers of a small fish, usually called *silver-sides*, from a broad line of a glossy silver color that runs

* Vide Buffon.

from the gills to the tail. The mouths of these inlets abound with this fry, or fish, probably feeding on the various matters washed down from the marshes.

The voice of the Shearwater is harsh and screaming, resembling that of the Tern, but stronger. It flies with a slowly flapping flight, dipping occasionally, with steady expanded wings, and bended neck, its lower mandible into the sea, and with open mouth receiving its food as it ploughs along the surface. It is rarely seen swimming on the water; but frequently rests in large parties on the sand-bars at low water. One of these birds which I wounded in the wing, and kept in the room beside me for several days, soon became tame and even familiar. It generally stood with its legs erect, its body horizontal, and its neck rather extended. It frequently reposed on its belly, and stretching its neck, rested its long bill on the floor. It spent most of its time in this way, or in dressing and arranging its plumage, with its long scissors-like bill, which it seemed to perform with great ease and dexterity. It refused every kind of food offered it, and I am persuaded never feeds but when on the wing. As to the reports of its frequenting oyster beds, and feeding on these fish, they are contradicted by all those persons with whom I have conversed, whose long residence on the coast, where those birds are common, has given them the best opportunities of knowing.

The Shearwater is nineteen inches in length, from the point of the bill to the extremity of the tail, the tips of the wings, when shut, extend full four inches farther; breadth three feet eight inches; length of the lower mandible four inches and a half, of the upper three inches and a half, both of a scarlet red, tinged with orange, and ending with black; the lower extremely thin, the upper grooved so as to receive the edge of the lower; the nostril is large and pervious, placed in a hollow near the base and edge of the upper mandible, where it projects greatly over the lower; upper part of the head, neck, back and scapulars, deep black; wings the same, except the secondaries, which are white on the inner vanes, and also tipped with white; tail forked, consisting of twelve feathers, the two middle ones about an inch and a half shorter than the exterior ones, all black, broadly edged on both sides with white; tail-coverts white on the outer sides, black in the middle; front, passing down the neck below the eye, throat, breast, and whole lower parts, pure white; legs and webbed feet bright scarlet, formed almost exactly like those of the Tern. Weight twelve ounces avoirdupois. The female weighed nine ounces, and measured only sixteen inches in length, and three feet three inches in extent, the colors and markings were the same as those of the male, with the exception of the tail, which was white, shafted and broadly centered with black.

The birds from which these descriptions were taken, were shot on the

twenty-fifth of May, before they had begun to breed. The female contained a great number of eggs, the largest of which were about the size of duck-shot; the stomach, in both, was an oblong pouch, ending in a remarkably hard gizzard, curiously puckered or plaited, containing the half dissolved fragments of the small silver-sides, pieces of shrimps, small crabs, and skippers, or sand fleas.

On some particular parts of the coast of Virginia, these birds are seen, on low sand-bars, in flocks of several hundreds together. There more than twenty nests have been found within the space of a square rod. The young are at first so exactly of a color with the sand on which they sit, as to be with difficulty discovered, unless after a close search.

The Shearwater leaves our shores soon after his young are fit for the journey. He is found on various coasts of Asia, as well as America, residing principally near the tropics; and migrating into the temperate regions of the globe only for the purpose of rearing his young. He is rarely or never seen far out at sea; and must not be mistaken for another bird of the same name, a species of Petrel,* which is met with on every part of the ocean, skimming with bended wings along the summits, declivities, and hollows of the waves.

GENUS XCIII. STERNA. TERN.

SPECIES I. *STERNA HIRUNDO*.

GREAT TERN.

[Plate LX. Fig. 1.]

Arct. Zool. p. 524.—No. 448.—*Le pierre garin, ou grande Hirondelle de mer*, BUFF. VIII., 331. *Pl. Enl.* 987.—BEWICK, II., 181.†

THIS bird belongs to a tribe very generally dispersed over the shores of the ocean. Their generic characters are these:—Bill straight, sharp pointed, a little compressed and strong; nostrils linear; tongue slender, pointed; legs short; feet webbed; hind toe and its nail straight; wings long; tail generally forked. Turton enumerates twenty-five species of this genus, scattered over various quarters of the world; six of which, at least, are natives of the United States. From their long pointed wings they are generally known to seafaring people, and others residing

* *Procellaria Puffinus*, the Shearwater Petrel.

† *Sterna Hirundo*, GMEL. *Syst.* I., p. 606.—*Ind. Orn.* p. 807, No. 15.—BRISS. VI., p. 203, pl. 19, fig. 1.—TEMN. *Man. d'Orn.* p. 740.

near the seashore, by the name of *Sea Swallows*; though some few, from their near resemblance, are confounded with the Gulls.

The present species, or Great Tern, is common to the shores of Europe, Asia and America. It arrives on the coast of New Jersey about the middle or twentieth of April, led no doubt by the multitudes of fish which at that season visit our shallow bays and inlets. By many it is called the Sheep's-head Gull, from arriving about the same time with the fish of that name.

About the middle or twentieth of May this bird commences laying. The preparation of a nest, which costs most other birds so much time and ingenuity, is here altogether dispensed with. The eggs, generally three in number, are placed on the surface of the dry drift grass, on the beach or salt marsh, and covered by the female only during the night, or in wet, raw or stormy weather. At all other times the hatching of them is left to the heat of the sun. These eggs measure an inch and three-quarters in length, by about an inch and two-tenths in width, and are of a yellowish dun color, sprinkled with dark brown and pale Indian ink. Notwithstanding they seem thus negligently abandoned during the day, it is very different in reality. One or both of the parents are generally fishing within view of the place, and on the near approach of any person, instantly make their appearance over head; uttering a hoarse jarring kind of cry, and flying about with evident symptoms of great anxiety and consternation. The young are generally produced at intervals of a day or so from each other, and are regularly and abundantly fed for several weeks, before their wings are sufficiently grown to enable them to fly. At first the parents alight with the fish, which they have brought in their mouth, or in their bill, and tearing it in pieces distribute it in such portions as their young are able to swallow. Afterwards they frequently feed them without alighting, as they skim over the spot; and as the young become nearly ready to fly, they drop the fish among them, where the strongest and most active has the best chance to gobble it up. In the meantime, the young themselves frequently search about the marshes, generally not far apart, for insects of various kinds; but so well acquainted are they with the peculiar language of their parents, that warn them of the approach of an enemy, that on hearing their cries they instantly squat, and remain motionless until the danger be over.

The flight of the Great Tern, and indeed of the whole tribe, is not in the sweeping shooting manner of the land Swallows, notwithstanding their name; the motions of their long wings are slower, and more in the manner of the Gull. They have, however, great powers of wing and strength in the muscles of the neck, which enable them to make such sudden and violent plunges, and that from a considerable height, too, headlong on their prey, which they never seize but with their bills.

In the evening, I have remarked, as they retired from the upper parts of the bays, rivers and inlets, to the beach for repose, about breeding time, that each generally carried a small fish in his bill.

As soon as the young are able to fly, they lead them to the sandy shoals and ripples where fish are abundant; and while they occasionally feed them, teach them by their example to provide for themselves. They sometimes penetrate a great way inland, along the courses of rivers; and are occasionally seen about all our numerous ponds, lakes and rivers, most usually near the close of the summer.

This species inhabits Europe as high as Spitzbergen; is found on the arctic coasts of Siberia and Kamtschatka, and also on our own continent as far north as Hudson's Bay. In New England it is called by some the Mackerel Gull. It retires from all these places, at the approach of winter, to more congenial seas and seasons.

The Great Tern is fifteen inches long, and thirty inches in extent; bill reddish yellow, sometimes brilliant crimson, slightly angular on the lower mandible, and tipped with black; whole upper part of the head black, extending to a point half way down the neck behind, and including the eyes; sides of the neck, and whole lower parts, pure white; wing quills hoary, as if bleached by the weather, long and pointed; whole back, scapulars and wing, bluish white, or very pale lead color; rump and tail coverts white; tail long and greatly forked, the exterior feathers being three inches longer than the adjoining ones, the rest shortening gradually for an inch and a half to the middle ones, the whole of a pale lead color; the outer edge of the exterior ones black; legs and webbed feet brilliant red lead; membranes of the feet deeply scalloped; claws large and black, middle one the largest. The primary quill feathers are generally dark on their inner edges. The female differs in having the two exterior feathers of the tail considerably shorter. The voice of these birds is like the harsh jarring of an opening door, on its rusted hinges. The bone of the skull is remarkably thick and strong, as also the membrane that surrounds the brain; in this respect resembling the Woodpecker's. In both, this provision is doubtless intended to enable the birds to support, without injury, the violent concussions caused by the plunging of the one, and the chiselling of the other.

SPECIES II. *STERNA MINUTA*.

LESSER TERN.

[Plate LX. Fig. 2.]

Arct. Zool. No. 449.—*La petite Hirondelle de mer*, BUFF. VIII., 337. *Pl. Enl.* 996.
—BEWICK, II., 183.*

THIS beautiful little species looks like the preceding in miniature, but surpasses it far in the rich glossy satin-like white plumage with which its throat, breast, and whole lower parts, are covered. Like the former, it is also a bird of passage, but is said not to extend its migrations to so high a northern latitude, being more delicate and susceptible of cold. It arrives on the coast somewhat later than the other, but in equal and perhaps greater numbers; coasts along the shores, and also over the pools, in the salt marshes, in search of prawns, of which it is particularly fond; hovers, suspended in the air, for a few moments above its prey, exactly in the manner of some of our small Hawks, and dashes headlong down into the water after it, generally seizing it with its bill; mounts instantly again to the same height, and moves slowly along as before, eagerly examining the surface below. About the twenty-fifth of May, or beginning of June, the female begins to lay. The eggs are dropped on the dry and warm sand, the heat of which, during the day, is fully sufficient for the purpose of incubation. This heat is sometimes so great, that one can scarcely bear the hand in it for a few moments, without inconvenience. The wonder would therefore be the greater should the bird sit on her eggs during the day, when her warmth is altogether unnecessary, and perhaps injurious, than that she should cover them only during the damps of night, and in wet and stormy weather; and furnishes another proof that the actions of birds are not the effect of mere blind impulse, but of volition, regulated by reason, depending on various incidental circumstances, to which their parental cares are ever awake. I lately visited those parts of the beach on Cape May, where this little bird breeds. The eggs, generally four in number, were placed on the flat sands, safe beyond the reach of the highest summer tide. They were of a yellowish brown color, blotched with rufous, and measured nearly an inch and three-quarters in length. During my whole stay, these birds flew in crowds around me, and often within a few yards of my head, squeaking like so many young pigs,

* *Sterna minuta*, GMEL. *Syst.* I., p. 608.—*Ind. Orn.* p. 809, No. 19.—*Sterna metopoleucos*, Ib. No. 22.—BRISS. VI., p. 206, pl. 19, fig. 2.—TEMM. *Man. d'Orn.* p. 752.

which their voice strikingly resembles. A Humming Bird, that had accidentally strayed to the place, appeared suddenly among this outrageous group, several of whom darted angrily at him; but he shot like an arrow from them, directing his flight straight towards the ocean. I have no doubt but the distressing cries of the Terns had drawn this little creature to the scene, having frequently witnessed his anxious curiosity on similar occasions in the woods.

The Lesser Tern feeds on beetles, crickets, spiders, and other insects, which it picks up from the marshes; as well as on small fish, on which it plunges at sea. Like the former, it also makes extensive incursions, inland, along the river courses, and has frequently been shot several hundred miles from the sea. It sometimes sits for hours together on the sands, as if resting after the fatigues of flight to which it is exposed.

The Lesser Tern is extremely tame and unsuspicious, often passing you in its flight, and within a few yards, as it traces the windings and indentations of the shore in search of its favorite prawns and skippers. Indeed at such times it appears either altogether heedless of man, or its eagerness for food overcomes its apprehensions for its own safety. We read in ancient authors, that the fishermen used to float a cross of wood, in the middle of which was fastened a small fish for a bait, with limed twigs stuck to the four corners, on which the bird darting was entangled by the wings. But this must have been for mere sport, or for its feathers, the value of the bird being scarcely worth the trouble, as they are generally lean, and the flesh savoring strongly of fish.

The Lesser Tern is met with in the south of Russia, and about the Black and Caspian Sea; also in Siberia about the Irtish.* With the former, it inhabits the shores of England during the summer, where it breeds, and migrates, as it does here, to the south, as the cold of autumn approaches

This species is nine and a half inches long, and twenty inches in extent; bill bright reddish yellow; nostril pervious; lower mandible angular; front white, reaching in two narrow points over the eye; crown, and band through the eye, and hind-head, black, tapering to a point as it descends; cheeks, sides of the neck, and whole lower parts, of the most rich and glossy white, like the brightest satin; upper parts of the back and wings a pale glossy ash or light lead color; the outer edges of the three exterior primaries, black, their inner edges white; tail pale ash, but darker than the back, and forked, the two outer feathers an inch longer, tapering to a point; legs and feet reddish yellow; webbed feet, claws and hind toe, exactly formed like those of the preceding. The female nearly resembles the male, with the exception of having the two exterior tail feathers shorter.

* Pennant.

SPECIES III. *STERNA ARANEA*.

MARSH TERN.

[Plate LXXII. Fig. 6.]

THIS new species I first met with on the shores of Cape May, particularly over the salt marshes, and darting down after a kind of large black spider, plenty in such places. This spider can travel under water as well as above, and, during summer at least, seems to constitute the principal food of the present Tern. In several which I opened, the stomach was crammed with a mass of these spiders alone; these they frequently pick up from the pools as well as from the grass, dashing down on them in the manner of their tribe. Their voice is sharper and stronger than that of the Common Tern; the bill is differently formed, being shorter, more rounded above, and thicker; the tail is also much shorter, and less forked. They do not associate with the others; but keep in small parties by themselves.

The Marsh Tern is fourteen inches in length, and thirty-four in extent; bill thick, much rounded above, and of a glossy blackness; whole upper part of the head and hind neck black; whole upper part of the body hoary white; shafts of the quill and tail feathers pure white; line from the nostril under the eye, and whole lower parts pure white; tail forked, the outer feathers about an inch and three-quarters longer than the middle ones; the wings extend upwards of two inches beyond the tail; legs and feet black, hind toe small, straight, and pointed.

The female, as to plumage, differs in nothing from the male. The yearling birds, several of which I met with, have the plumage of the crown white at the surface, but dusky below; so that the boundaries of the black, as it will be in the perfect bird, are clearly defined; through the eye a line of black passes down the neck for about an inch, reaching about a quarter of an inch before it; the bill is not so black as in the others; the legs and feet dull orange, smutted with brown or dusky; tips and edges of the primaries blackish; shafts white.

This species breeds in the salt marshes, the female drops her eggs, generally three or four in number, on the dry drift grass, without the slightest appearance of a nest; they are of a greenish olive, spotted with brown.

A specimen of this Tern has been deposited in the museum of this city.

SPECIES IV. *STERNA PLUMBEA*.
SHORT-TAILED TERN.

[Plate LX. Fig. 3.]

A SPECIMEN of this bird was first sent me by Mr. Beasley of Cape May; but being in an imperfect state, I could form no correct notion of the species; sometimes supposing it might be a young bird of the preceding Tern. Since that time, however, I have had an opportunity of procuring a considerable number of this same kind, corresponding almost exactly with each other. I have ventured to introduce it in this place as a new species; and have taken pains to render the figure in the plate a correct likeness of the original.

On the sixth of September, 1812, after a violent north-east storm, which inundated the meadows of Schuylkill in many places, numerous flocks of this Tern all at once made their appearance, flying over those watery spaces, picking up grasshoppers, beetles, spiders, and other insects, that were floating on the surface. Some hundreds of them might be seen at the same time, and all seemingly of one sort. They were busy, silent and unsuspicious, darting down after their prey without hesitation, though perpetually harassed by gunners, whom the novelty of their appearance had drawn to the place. Several flocks of the Yellow-shanks Snipe, and a few Purres, appeared also in the meadows at the same time, driven thither, doubtless, by the violence of the storm.

I examined upwards of thirty individuals of this species, by dissection, and found both sexes alike in color. Their stomachs contained grasshoppers, crickets, spiders, &c., but no fish. The people on the seacoast have since informed me, that this bird comes to them only in the fall, or towards the end of summer; and is more frequently seen about the mill-ponds, and fresh-water marshes, than in the bays; and add, that it feeds on grasshoppers, and other insects, which it finds on the meadows and marshes, picking them from the grass, as well as from the surface of the water. They have never known it to associate with the Lesser Tern, and consider it altogether a different bird. This opinion seems confirmed by the above circumstances, and by the fact

* Prince Musignano asserts that this is the young of the *Sterna nigra*, a bird inhabiting Europe as well as this country, and of which many nominal species have been made. In this opinion he is probably correct.

of its greater extent of wing, being full three inches wider than the Lesser Tern; and also making its appearance after the others have gone off.

The Short-tailed Tern measures eight inches and a half, from the point of the bill to the tip of the tail, and twenty-three inches in extent; the bill is an inch and a quarter in length, sharp pointed, and of a deep black color; a patch of black covers the crown, auriculars, spot before the eye, and hind-head; the forehead, eyelids, sides of the neck, passing quite round below the hind-head, and whole lower parts, are pure white; the back is dark ash, each feather broadly tipped with brown; the wings a dark lead color, extending an inch and a half beyond the tail, which is also of the same tint, and slightly forked; shoulders of the wing brownish ash; legs and webbed feet tawny. It had a sharp shrill cry when wounded and taken.

This is probably the *Brown Tern* mentioned by Willoughby, of which so many imperfect accounts have already been given. The figure in the plate, like those which accompany it, is reduced to one-half the size of life.

SPECIES V. *STERNA FULIGINOSA*.

SOOTY TERN.

[Plate LXXII. Fig. 7.]

Le Hirondelle de Mer à grande envergure, BUFF. VIII., p. 345.—*Egg-bird*, FORST. Voy. p. 113.—*Noddy*, DAMP. Voy. III., p. 142.—*Arct. Zool.* No. 447.—LATH. Syn. III., p. 352.*

THIS bird has been long known to navigators, as its appearance at sea usually indicates the vicinity of land; instances, however, have occurred in which they have been met with one hundred leagues from shore.† The species is widely dispersed over the various shores of the ocean. They were seen by Dampier in New Holland; are in prodigious numbers in the Island of Ascension; and in Christmas Island are said to lay, in December, one egg on the ground, the egg is yellowish, with brown and violet spots.‡ In passing along the northern shores of Cuba and the coast of Florida and Georgia, in the month of July, I observed this species very numerous and noisy, dashing down headlong after small fish. I shot and dissected several, and found their stomachs uniformly filled

* *Sterna fuliginosa*, GMEL. *Syst.* I., p. 605.—*Ind. Orn.* p. 804, No. 4. *Gen. Syn.* III., p. 352, No. 4.

† Cook, Voy. I., p. 275.

‡ Turton.

with fish. I could perceive little or no difference between the colors of the male and female.

Length of the Sooty Tern seventeen inches, extent three feet six inches; bill an inch and a half long, sharp pointed and rounded above, the upper mandible serrated slightly near the point; nostril an oblong slit, color of the bill glossy black; irides dusky; forehead as far as the eyes white; whole lower parts and sides of the neck pure white; rest of the plumage black; wings very long and pointed, extending, when shut, nearly to the extremity of the tail, which is greatly forked, and consists of twelve feathers, the two exterior ones four inches longer than those of the middle, the whole of a deep black, except the two outer feathers, which are white, but towards the extremities a little blackish on the inner vanes; legs and webbed feet black, hind toe short.

The secondary wing feathers are eight inches shorter than the longest primary.

This bird frequently settles on the rigging of ships at sea, and, in common with another species, *S. Stolida*, is called by sailors the Noddy.

GENUS XCIV. LARUS. GULL.

SPECIES. *L. ATRICILLA*.

LAUGHING GULL.

[Plate LXXIV. Fig. 4.]

Larus atricilla, LINN. *Syst.* ed. 10, tom. I., p. 136, 5.—GMEL. *Syst.* I., p. 600, 8.—*Ind. Orn.* p. 813, 4.—*Laughing Gull*, CATESBY, I., pl. 89.—LATH. *Gen. Syn.* III., p. 383, 12.—*Arct. Zool.* No. 454.—*La Mouette ricuse*, BRISS. VI., p. 192, 13, pl. 18, fig. 1.—*Mouette à capuchon plombé*, TEMM. *Man. d'Orn.* p. 779.

LENGTH seventeen inches, extent three feet six inches; bill, thighs, legs, feet, sides of the mouth and eyelids, dark blood red; inside of the mouth vermilion; bill nearly two inches and a half long; the nostril is placed rather low; the eyes are black; above and below each eye there is a spot of white; the head and part of the neck are black, remainder of the neck, breast, whole lower parts, tail-coverts and tail, pure white; the scapulars, wing-coverts, and whole upper parts, are of a fine blue ash color; the first five primaries are black towards their extremities; the secondaries are tipped largely with white, and almost all the primaries slightly; the bend of the wing is white, and nearly three inches

long; the tail is almost even, it consists of twelve feathers, and its coverts reach within an inch and a half of its tip; the wings extend two inches beyond the tail; a delicate blush is perceivable on the breast and belly. Length of tarsus two inches.

The head of the female is of a dark dusky slate color, in other respects she resembles the male.

In some individuals, the crown is of a dusky gray; the upper part and sides of the neck of a lead color; the bill and legs of a dirty, dark, purplish brown. Others have not the white spots above and below the eyes; these are young birds.

The changes of plumage, to which birds of this genus are subject, have tended not a little to confound the naturalist; and a considerable collision of opinion, arising from an imperfect acquaintance with the living subjects, has been the result. To investigate thoroughly their history, it is obviously necessary that the ornithologist should frequently explore their native haunts; and to determine the species of periodical or occasional visitors, an accurate comparative examination of many specimens, either alive, or recently killed, is indispensable. Less confusion would arise among authors, if they would occasionally abandon their accustomed walks—their studies and their museums, and seek *correct* knowledge in the only place where it is to be obtained—in the grand Temple of Nature. As it respects, in particular, the tribe under review, the zealous inquirer would find himself amply compensated for all his toil, by observing these neat and clean birds coursing along the rivers and coast, enlivening the prospect by their airy movements: now skimming closely over the watery element, watching the motions of the surges, and now rising into the higher regions, sporting with the winds; while he inhaled the invigorating breezes of the ocean, and listened to the soothing murmurs of its billows.

The Laughing Gull, known in America by the name of the Black-headed Gull, is one of the most beautiful and most sociable of its genus. They make their appearance, on the coast of New Jersey, in the latter part of April; and do not fail to give notice of their arrival, by their familiarity and loquacity. The inhabitants treat them with the same indifference that they manifest towards all those harmless birds, which do not minister either to their appetite or their avarice; and hence the Black-heads may be seen in companies around the farm-house; coursing along the river shores, gleaning up the refuse of the fishermen, and the animal substances left by the tide; or scattered over the marshes, and newly-ploughed fields, regaling on the worms, insects and their larvæ, which, in the vernal season, the bounty of Nature provides for the sustenance of myriads of the feathered race.

On the Jersey side of the Delaware Bay, in the neighborhood of Fish-

ing-creek, about the middle of May, the Black-headed Gulls assemble in great multitudes, to feed upon the remains of the King Crabs, which the hogs have left, or upon the spawn, which those curious animals deposit in the sand, and which is scattered along the shore by the waves. At such times, if any one approach to disturb them, the Gulls will rise up in clouds, every individual squalling so loud, that the roar may be heard at the distance of two or three miles.

It is an interesting spectacle to behold this species when about recommencing their migrations. If the weather be calm, they will rise up in the air, spirally, chattering all the while to each other, in the most sprightly manner, their notes, at such times, resembling the singing of a hen, but far louder, changing often into a *haw, ha ha ha haw!* the last syllable lengthened out like the excessive laugh of a negro. When mounting and mingling together, like motes in the sunbeams, their black heads and wing tips, and snow-white plumage, give them a very beautiful appearance. After gaining an immense height, they all move off, with one consent, in a direct line towards the point of their destination.

This bird breeds in the marshes. The eggs are three in number, of a dun clay color, thinly marked with small irregular touches of a pale purple, and pale brown; some are of a deeper dun, with larger marks, and less tapering than others; the egg measures two inches and a quarter by one inch and a half.

The Black-heads frequently penetrate into the interior, especially as far as Philadelphia; but they seem to prefer the neighborhood of the coast, for the purpose of breeding. They retire southward early in the autumn.*

* From Mr. Ord's supplementary volume.

GENUS XCV. PROCELLARIA. PETREL.

SPECIES. *P. PELAGICA*.*

STORMY PETREL.

[Plate LX. Fig. 6.]

Arct. Zool. No. 464.—*Le Petrel; ou l'Oiseau tempête*, *Pl. Enl.* 993.—BEWICK,
II., 223.

THERE are few persons who have crossed the Atlantic, or traversed much of the ocean, who have not observed these solitary wanderers of the deep, skimming along the surface of the wild and wasteful ocean; flitting past the vessel like Swallows, or following in her wake, gleanings their scanty pittance of food from the rough and whirling surges. Habited in mourning, and making their appearance generally in greater numbers previous to or during a storm, they have long been fearfully regarded by the ignorant and superstitious, not only as the foreboding messengers of tempests and dangers to the hapless mariner; but as wicked agents, connected, somehow or other, in creating them. "Nobody," say they, "can tell anything of where they come from, or how they breed, though (as sailors sometimes say) it is supposed that they hatch their eggs under their wings as they sit on the water." This mysterious uncertainty of their origin, and the circumstances above recited, have doubtless given rise to the opinion so prevalent among this class of men, that they are in some way or other connected with that personage who has been styled the Prince of the Power of the Air. In every country where they are known, their names have borne some affinity to this belief. They have been called *Witches*;† *Stormy Petrels*; the *Devil's Birds*; *Mother Carey's Chickens*,‡ probably from some celebrated ideal hag of that name; and their unexpected and numerous appearance has frequently thrown a momentary damp over the mind of the hardiest seaman.

It is the business of the naturalist, and the glory of philosophy, to

* *Procellaria Wilsonii*, BONAPARTE, *Journal Acad. Nat. Sc. Ph.* vol. III, p. 231. —It is not the *P. pelagica*; of course the synonymes quoted by our author do not belong to this bird.

† *Arct. Zool.* p. 464.

‡ This name seems to have been originally given them by Captain Carteret's sailors, who met with these birds on the coast of Chili. See Hawkesworth's *Voyages*, vol. I., p. 203.

examine into the reality of these things ; to dissipate the clouds of error and superstition wherever they begin to darken and bewilder the human understanding ; and to illustrate Nature with the radiance of truth. With these objects in view, we shall now proceed, as far as the few facts we possess will permit, in our examination into the history of this celebrated species.

The *Stormy Petrel*, the least of the whole twenty-four species of its tribe enumerated by ornithologists, and the smallest of all palmated fowls, is found over the whole Atlantic Ocean, from Europe to North America, at all distances from land, and in all weathers ; but is particularly numerous near vessels immediately preceding and during a gale, when flocks of them crowd in her wake, seeming then more than usually active in picking up various matters from the surface of the water. This presentiment of a change of weather is not peculiar to the Petrel alone ; but is noted in many others, and common to all, even to those long domesticated. The Woodpeckers, the Snow-birds, the Swallows, are all observed to be uncommonly busy before a storm, searching for food with great eagerness, as if anxious to provide for the privations of the coming tempest. The common Ducks and the Geese are infallibly noisy and tumultuous before falling weather ; and though, with these, the attention of man renders any extra exertions for food at such times unnecessary, yet they wash, oil, dress and arrange their plumage with uncommon diligence and activity. The intelligent and observing farmer remarks this bustle, and wisely prepares for the issue ; but he is not so ridiculously absurd as to suppose, that the storm which follows is produced by the agency of these feeble creatures, who are themselves equal sufferers by its effects with man. He looks on them rather as useful monitors, who from the delicacy of their organs, and a perception superior to his own, point out the change in the atmosphere before it has become sensible to his grosser feelings ; and thus, in a certain degree, contribute to his security. And why should not those who navigate the ocean contemplate the appearance of this unoffending little bird in like manner, instead of eyeing it with hatred and execration ? As well might they curse the midnight light-house, that, star-like, guides them on their watery way, or the buoy, that warns them of the sunken rocks below, as this harmless wanderer, whose manner informs them of the approach of the storm, and thereby enables them to prepare for it.

The Stormy Petrels, or Mother Carey's Chickens, breed in great numbers on the rocky shores of the Bahama and the Bermuda Islands, and in some places on the coast of East Florida and Cuba. They breed in communities like the Bank Swallows, making their nests in the holes and cavities of the rocks above the sea, returning to feed their young only during the night, with the superabundant oily food from their stomachs. At these times they may be heard making a continued clattering sound

like frogs during the whole night. In the day they are silent, and wander widely over the ocean. This easily accounts for the vast distance they are sometimes seen from land, even in the breeding season. The rapidity of their flight is at least equal to the fleetness of our Swallows. Calculating this at the rate of one mile per minute, twelve hours would be sufficient to waft them a distance of seven hundred and twenty miles; but it is probable that the far greater part confine themselves much nearer land during that interesting period.

In the month of July, while on a voyage from New Orleans to New York, I saw few or none of these birds in the Gulf of Mexico, although our ship was detained there by calms for twenty days, and carried by currents as far south as Cape Antonio, the westernmost extremity of Cuba. On entering the gulf stream, and passing along the coasts of Florida and the Carolinas, these birds made their appearance in great numbers, and in all weathers; contributing much, by their sprightly evolutions of wing, to enliven the scene; and affording me every day several hours of amusement. It is indeed an interesting sight to observe these little birds in a gale, coursing over the waves, down the declivities, up the ascents of the foaming surf, that threatens to burst over their heads; sweeping along the hollow troughs of the sea, as in a sheltered valley, and again mounting with the rising billow, and, just above its surface, occasionally dropping their feet, which, striking the water, throw them up again with additional force; sometimes leaping, with both legs parallel, on the surface of the roughest waves for several yards at a time. Meanwhile they continue coursing from side to side of the ship's wake, making excursions far and wide, to the right and to the left, now a great way ahead, and now shooting astern for several hundred yards, returning again to the ship as if she were all the while stationary, though perhaps running at the rate of ten knots an hour! But the most singular peculiarity of this bird is its faculty of standing, and even running, on the surface of the water, which it performs with apparent facility. When any greasy matter is thrown overboard, these birds instantly collect around it, and facing to windward, with their long wings expanded, and their webbed feet patting the water; the lightness of their bodies, and the action of the wind on their wings, enable them to do this with ease. In calm weather they perform the same manœuvre, by keeping their wings just so much in action as to prevent their feet from sinking below the surface. According to Buffon,* it is from this singular habit that the whole genus have obtained the name Petrel, from the apostle Peter, who, as Scripture informs us, also walked on the water.

As these birds often come up immediately under the stern, one can

* Tome xxiii., p. 299.

examine their form and plumage with nearly as much accuracy as if they were in the hand. They fly with the wings forming an almost straight horizontal line with the body, the legs extended behind, and the feet partly seen stretching beyond the tail. Their common note of "*weet, weet,*" is scarcely louder than that of a young Duck of a week old, and much resembling it. During the whole of a dark, wet and boisterous, night which I spent on deck, they flew about the after-rigging, making a singular hoarse chattering, which in sound resembled the syllables *patret tu cuk cuk tu tu*, laying the accent strongly on the second syllable *tret*. Now and then I conjectured that they alighted on the rigging, making then a lower curring noise.

Notwithstanding the superstitious fears of the seamen, who dreaded the vengeance of the survivors, I shot fourteen of these birds one calm day, in lat. 33°, eighty or ninety miles off the coast of Carolina, and had the boat lowered to pick them up. These I examined with considerable attention, and found the most perfect specimens as follow :

Length six inches and three-quarters ; extent thirteen inches and a half ; bill black, nostrils united in a tubular projection, the upper mandible grooved thence, and overhanging the lower like that of a bird of prey ; head, back and lower parts, brown sooty black ; greater wing-coverts pale brown, minutely tipped with white ; sides of the vent, and whole tail-coverts, pure white ; wings and tail deep black, the latter nearly even at the tip, or very slightly forked ; in some specimens, two or three of the exterior tail feathers were white for an inch or so at the root ; legs and naked part of the thighs black ; feet webbed, with the slight rudiments of a hind toe ; the membrane of the foot is marked with a spot of straw yellow, and finely serrated along the edges ; eyes black. Male and female differing nothing in color.

On opening these I found the first stomach large, containing numerous round semitransparent substances, of an amber color, which I at first suspected to be the spawn of some fish ; but on a more close and careful inspection, they proved to be a vegetable substance, evidently the seeds of some marine plant, and about as large as mustard seed. The stomach of one contained a fish, half digested, so large that I should have supposed it too bulky for the bird to swallow ; another was filled with the tallow which I had thrown overboard ; and all had quantities of the seeds already mentioned, both in their stomachs and gizzards ; in the latter were also numerous minute pieces of barnacle shells. On a comparison of the seeds above mentioned with those of the *gulf-weed*, so common and abundant in this part of the ocean, they were found to be the same. Thus it appears, that these seeds floating perhaps a little below the surface, and the barnacles with which ships' bottoms usually abound, being both occasionally thrown up to the surface by the action of the vessel through the water, in blowing weather, entice these birds

to follow in the ship's wake at such times, and not, as some have imagined, merely to seek shelter from the storm, the greatest violence of which they seem to disregard. There is also the greasy dish-washings, and other oily substances, thrown over by the cook, on which they feed with avidity; but with great good nature, their manners being so gentle, that I never observed the slightest appearance of quarrelling or dispute among them.

One circumstance is worthy of being noticed, and shows the vast range they take over the ocean. In firing at these birds, a quill feather was broken in each wing of an individual, and hung fluttering in the wind, which rendered it so conspicuous among the rest, as to be known to all on board. This bird, notwithstanding its inconvenience, continued with us for nearly a week, during which we sailed a distance of more than four hundred miles to the north. Flocks continued to follow us until near Sandy Hook.

The length of time these birds remain on wing is no less surprising. As soon as it was light enough in the morning to perceive them, they were found roaming about as usual; and I have often sat in the evening, in the boat which was suspended at the ship's stern, watching their movements, until it was so dark that the eye could no longer follow them, though I could still hear their low note of *weet weet*, as they approached near to the vessel below me.

These birds are sometimes driven by violent storms to a considerable distance inland. One was shot some years ago on the river Schuylkill, near Philadelphia; and Bewick mentions their being found in various quarters of the interior of England. From the nature of their food, their flesh is rank and disagreeable; though they sometimes become so fat, that, as Mr. Pennant, on the authority of Brunnich, asserts, "the inhabitants of the Feroe Isles make them serve the purposes of a candle, by drawing a wick through the mouth and rump, which being lighted, the flame is fed by the fat and oil of the body."*

NOTE.—When this work was published, its author was not aware that those birds observed by navigators in almost every quarter of the globe, and known under the name of Stormy Petrels, formed several distinct species; consequently, relying on the labors of his predecessors, he did not hesitate to name the subject of this chapter the *Pelagica*, believing it to be identical with that of Europe. But the investigations of later ornithologists having resulted in the conviction that Europe possessed at least two species of these birds, it became a question whether or not those which are common on the coasts of the United States would form a third species; and an inquiry has established the fact that the Ameri-

* Brit. Zool. vol. ii., p. 434.

can Stormy Petrel, hitherto supposed to be the true *Pelagica*, is an entirely distinct species. For this discovery we are indebted to the labors of Charles Bonaparte, from whose interesting paper on the subject, published in the Journal of the Academy of Natural Sciences of Philadelphia, we shall take the liberty of making an extract. The author of the paper in question first describes and figures the true *Pelagica* of the systems; secondly, the *Leachii*, a species described by Temminck, and restricted to the vicinity of the Island of St. Kilda, but which the former found diffused over a great part of the Atlantic, east of the Banks of Newfoundland; and thirdly, the species of our coasts. He also indicates a fourth, which inhabits the Pacific Ocean; but whether or not this last be in reality a species different from those named, has not yet been determined.*

"When I first procured this species," says Mr. Bonaparte, "I considered it a nondescript, and noted it as such; the citation of Wilson's *pelagica*, among the synonymes of the true *pelagica*, by the most eminent ornithologist of the age, M. Temminck, not permitting a doubt of their identity. But having an opportunity of inspecting the very individual from which Wilson took his figure, and drew up his description, I was undeceived, by proving the unity of my specimens with that of Wilson, and the discrepancy of these with that of Temminck. The latter had certainly never seen an individual from America, otherwise the difference between the two species would not have eluded the accurate eye of this naturalist. I propose for this species the name of *Wilsonii*, as a small testimony of respect to the memory of the author of the American Ornithology, whose loss science and America will long deplore. The yellow spot upon the membrane of the feet distinguishes this species, at first sight, from the others; and this character remains permanent in the dried specimens."—*G. Ord.*

* Charles Bonaparte, Prince of Musignano, has recently established this species under the name of *Procellaria Oceanica*; and assigns to it the following essential characters: Tail slightly emarginate, the wings when closed extending more than an inch beyond its tip; length of the *tarsus* nearly one inch and three-quarters (eighteen French lines).

We extract from his paper, in the Zoological Journal, the following observations: "In comparing this species (*P. oceanica*) to the three others (*P. pelagica*, *P. Leachii*, and *P. Wilsonii*), it will be seen that it is the largest and the most varied with white of the subgenus, and that it can be confounded only with *P. Wilsonii*, to which it bears a strong resemblance in shape and color, both having the tarsi greatly elongated, the tube of the nostrils equally recurved, the upper tail-coverts entirely white, &c. But in addition to its much greater size, proportionally longer bill and tarsi, and lighter color, this new species may at first sight be distinguished from it by its wings extending so much beyond the tail, and by the want of the yellow spot on the interdigital membrane, which is found in *P. Wilsonii* only."—*J. H.*

GENUS XCVI. MERGUS. MERGANSER.

SPECIES I. *M. MERGANSER*.

GOOSANDER.

[Plate LXVIII. Fig. 1, Male.]

L'Harle, BRISS. VI., p. 231, 1, pl. 22.—BUFF. VIII., p. 267, pl. 23.—*Arct. Zool.* No. 465.—LATH. *Syn.* III., p. 418.*

THIS large and handsomely marked bird belongs to a genus different from that of the *Duck*, on account of the particular form and serratures of its bill. The genus is characterized as follows: "*Bill* toothed, slender, cylindrical, hooked at the point; *nostrils* small, oval, placed in the middle of the bill; *feet* four toed, the outer toe longest." Naturalists have denominated it *Merganser*. In this country the birds composing this genus are generally known by the name of Fishermen, or Fisher ducks. The whole number of known species amount to only nine or ten, dispersed through various quarters of the world; of these, four species, of which the present is the largest, are known to inhabit the United States.

From the common habit of these birds in feeding almost entirely on fin and shell fish, their flesh is held in little estimation, being often lean and rancid, both smelling and tasting strongly of fish; but such are the various peculiarities of tastes, that persons are not wanting who pretend to consider them capital meat.

The Goosander, called by some the Water Pheasant, and by others the Sheldrake, Fisherman, Diver, &c., is a winter inhabitant only, of the seashores, fresh-water lakes, and rivers of the United States. They usually associate in small parties of six or eight, and are almost continually diving in search of food. In the month of April they disappear, and return again early in November. Of their particular place and manner of breeding we have no account. Mr. Pennant observes that they continue the whole year in the Orkneys; and have been shot in the Hebrides, or Western Islands of Scotland, in summer. They are also found in Iceland, and Greenland, and are said to breed there;

* *Mergus Merganser*, GMEL. *Syst.* I., p. 544, No. 2.—LATH. *Ind. Orn.* p. 828, No. 1.—*Le Harle*, BUFF. *Pl. Enl.* 951, male.—*Grand Harle*, TEMM. *Man. d'Orn.* p. 881.

some asserting that they build on trees; others that they make their nests among the rocks.

The male of this species is twenty-six inches in length, and three feet three inches in extent, the bill three inches long, and nearly one inch thick at the base, serrated on both mandibles; the upper overhanging at the tip, where each is furnished with a large nail; the ridge of the bill is black, the sides crimson red; irides red; head crested, tumid, and of a black color glossed with green, which extends nearly half way down the neck, the rest of which, with the breast and belly, are white tinged with a delicate yellowish cream; back and adjoining scapulars black; primaries and shoulder of the wing brownish black; exterior part of the scapulars, lesser coverts, and tertials white; secondaries neatly edged with black, greater coverts white, their upper halves black, forming a bar on the wing, rest of the upper parts and tail brownish ash; legs and feet the color of red sealing-wax; flanks marked with fine semicircular dotted lines of deep brown; the tail extends about three inches beyond the wings.

This description was taken from a full plumaged male. The young males, which are generally much more numerous than the old ones, so exactly resemble the females in their plumage for at least the first, and part of the second year, as scarcely to be distinguished from them; and what is somewhat singular, the crests of these and of the females are actually longer than those of the full grown male, though thinner towards its extremities. These circumstances have induced some late Ornithologists to consider them as two different species, the young, or female, having been called the *Dun Diver*. By this arrangement they have entirely deprived the Goosander of his female; for in the whole of my examinations and dissections of the present species, I have never yet found the female in *his* dress. What I consider as undoubtedly the true female of this species is figured beside him. They were both shot in the month of April, in the same creek, unaccompanied by any other, and on examination the sexual parts of each were strongly and prominently marked. The windpipe of the female had nothing remarkable in it; that of the male had two very large expansions, which have been briefly described by Willoughby, who says: "It hath a large bony labyrinth on the windpipe, just above the divarications; and the windpipe hath besides two swellings out, one above another, each resembling a powder puff." These labyrinths are the distinguishing characters of the males; and are always found even in young males who have not yet thrown off the plumage of the female, as well as in the old ones. If we admit these Dun Divers to be a distinct species, we can find no difference between their pretended females and those of the Goosander, only one kind of female of this sort being known, and this is contrary to the usual analogy of the other three species, viz., the *Red-breasted Mer-*

ganser, the *Hooded* and the *Snew*, all of whose females are well known, and bear the same comparative resemblance in color to their respective males, the length of crest excepted, as the female Goosander we have figured bears to him.

Having thought thus much necessary on this disputed point, I leave each to form his own opinion on the facts and reasoning produced, and proceed to describe the female.

MERGUS. MERGANSER.

GOOSANDER.

[Plate LXVIII. Fig. 2, Female.]

Dun's Diver, LATH. *Syn.* III., p. 420.—*Arct. Zool.* No. 465.—BEWICK'S *Brit. Birds*, II., p. 23.—TURT. *Syst.* p. 335.—*L'Harle femelle*, BRISS. VI., p. 236.—BUFF. VIII., p. 272.—*Pl. Enl.* 953.*

THIS generally measures an inch or two shorter than the male; the length of the present specimen was twenty-five inches, extent thirty-five inches; bill crimson on the sides, black above; irides reddish; crested head and part of the neck dark brown, lightest on the sides of the neck, where it inclines to a sorrel color; chin and throat white; the crest shoots out in long radiating flexible stripes; upper part of the body, tail, and flanks an ashy slate, tinged with brown; primaries black; middle secondaries white, forming a large speculum on the wing; greater coverts black, tipped for half an inch with white; sides of the breast, from the sorrel colored part of the neck downwards, very pale ash, with broad semicircular touches of white; belly and lower part of the breast a fine yellowish cream color, a distinguishing trait also in the male; legs and feet orange red.

* *Mergus Castor*, GMEL. *Syst.* I., p. 545, *et var.*—LATH. *Ind. Orn.* p. 829, No. 2.—*Dun's Diver*, MONTAGU, *Orn. Dict. Sup.*

SPECIES II. *MERGUS SERRATOR*.

RED-BREASTED MERGANSER.

[Plate LXIX. Fig. 2.]

L'Harle huppée, BRISS. VI., p. 237, 2, pl. 23.—BUFF. VIII., p. 273.—*Pl. Enl.* 207.—
BEWICK, II., p. 235, EDW. pl. 95.—LATH. *Syn.* III., p. 432.

THIS is much more common in our fresh waters than either of the preceding, and is frequently brought to the Philadelphia market from the shores of the Delaware. It is an inhabitant of both continents. In the United States it is generally migratory; though a few are occasionally seen in autumn, but none of their nests have as yet come under my notice. They also frequent the seashore, keeping within the bays and estuaries of rivers. They swim low in the water, and when wounded in the wing, very dexterously contrive to elude the sportsman or his dog, by diving and coming up at a great distance, raising the bill only, above water, and dipping down again with the greatest silence. The young males of a year old are often found in the plumage of the female; their food consists of small fry, and various kinds of shell fish.

The Red-Breasted Merganser is said by Pennant to breed on Loch Mari in the county of Ross, in North Britain; and also in the Isle of Ilay. Latham informs us that it inhabits most parts of the north of Europe on the continent, and as high as Iceland; also in the Russian dominions about the great rivers of Siberia, and the Lake Baikal. Is said to be frequent in Greenland, where it breeds on the shores. The inhabitants often take it by darts thrown at it, especially in August, being then in moult. At Hudson's Bay, according to Hutchins, they come in pairs about the beginning of June, as soon as the ice breaks up, and build soon after their arrival, chiefly on dry spots of ground in the islands; lay from eight to thirteen white eggs, the size of those of a duck; the nest is made of withered grass, and lined with the down of the breast. The young are of a dirty brown like young goslings. In October they all depart southward to the lakes, where they may have open water.

This species is twenty-two inches in length, and thirty-two in extent; the bill is two inches and three-quarters in length, of the color of bright sealing-wax, ridged above with dusky; the nail at the tip large, blackish,

and overhanging; both mandibles are thickly serrated; irides red; head furnished with a long hairy crest which is often pendent, but occasionally erected, as represented in the plate; this and part of the neck is black glossed with green; the neck under this for two or three inches is pure white; ending in a broad space of reddish ochre spotted with black, which spreads over the lower part of the neck and sides of the breast; shoulders, back, and tertials deep velvety black, the first marked with a number of singular roundish spots of white; scapulars white; wing coverts mostly white, crossed by two narrow bands of black; primaries black, secondaries white, several of the latter edged with black; lower part of the back, the rump and tail coverts gray speckled with black; sides under the wings elegantly crossed with numerous waving lines of black; belly and vent white; legs and feet red; the tail dusky ash; the black of the back passes up the hind neck in a narrow band to the head.

The female is twenty-one inches in length, and thirty in extent; the crested head and part of the neck are of a dull sorrel color; irides yellow; legs and bill red, upper parts dusky slate; wings black, greater coverts largely tipped with white, secondaries nearly all white; sides of the breast slightly dusky; whole lower parts pure white; the tail is of a lighter slate than the back. The crest is much shorter than in the male, and sometimes there is a slight tinge of ferruginous on the breast.

The windpipe of the male of this species is very curious, and differs something from that of the Goosander. About two inches from the mouth it swells out to four times its common diameter, continuing of that size for about an inch and a half. This swelling is capable of being shortened or extended; it then continues of its first diameter for two inches or more, when it becomes flattish, and almost transparent for other two inches; it then swells into a bony labyrinth of more than two inches in length by one and a half in width, over the hollow sides of which is spread a yellowish skin like parchment. The left side of this, fronting the back of the bird, is a hard bone. The divarications come out very regularly from this at the lower end, and enter the lungs.

The intention of Nature in this extraordinary structure is probably to enable the bird to take down a supply of air to support respiration while diving; yet why should the female, who takes the same submarine excursions as the male, be entirely destitute of this apparatus?

SPECIES III. *MERGUS ALBELLUS*.

THE SMEW, OR WHITE NUN.

[Plate LXXI. Fig. 4.]

Le petit Harle huppé, ou la Piette, BRISS. VI., p. 243, 3, pl. 24, fig. 1.—BUFF. VIII., p. 275, pl. 24.—*Pl. Enl.* 449, male 450, female.—BEWICK, II., p. 238.—LATH. *Syn.* III., p. 428.—*Arct. Zool.* No. 468.

THIS is another of those Mergansers commonly known in this country by the appellation of Fishermen, Fisher Ducks, or Divers. The present species is much more common on the coasts of New England than farther to the south. On the shores of New Jersey it is very seldom met with. It is an admirable diver, and can continue for a long time under water. Its food is small fry, shell fish, shrimps, &c. In England, as with us, the Smew is seen only during winter; it is also found in France, in some parts of which it is called *la Piette*, as in parts of England it is named the Magpie Diver. Its breeding place is doubtless in the Arctic regions, as it frequents Iceland; and has been observed to migrate with other Mergansers and several kinds of Ducks up the river Wolga in February.*

The Smew, or White Nun, is nineteen inches in length, and two feet three inches in extent; bill black, formed very much like that of the Red-breasted M., but not so strongly toothed; irides dark; head crested; crown white, hind head black, round the area of the eye a large oval space of black; whole neck, breast, and belly white, marked on the upper and lower part of the breast with a curving line of black; back black; scapulars white, crossed with several faint dusky bars; shoulder of the wing and primaries black, secondaries and greater coverts black broadly tipped with white; across the lesser coverts a large band of white; sides and flanks crossed with waving lines; tail dark ash; legs and feet pale bluish slate.

The female is considerably less than the male; the bill a dark lead color; crest of the same peculiar form as that of the male, but less, and of a reddish brown; marked round the area of the eyes with dusky; cheeks, fore part of the neck, and belly white; round the middle of the neck a collar of pale brown; breast and shoulders dull brown and

* Dec. Russ. II., p. 145.

whitish intermixed; wings and back marked like those of the male; but of a deep brownish ash in those parts which in him are black; legs and feet pale blue. The young birds, as in the other three species, strongly resemble the female during the first and part of the second year. As these changes of color, from the garb of the female to that of the male, take place in the remote regions of the north, we have not the opportunity of detecting them in their gradual progress to full plumage. Hence, as both males and females have been found in the same dress, some writers have considered them as a separate species from the Smew, and have given to them the title of the Red-headed Smew.

In the ponds of New England, and some of the lakes in the state of New York, where the Smew is frequently observed, these red-headed kind are often found in company, and more numerous than the other, for very obvious reasons, and bear, in the markings, though not in the colors, of their plumage, evident proof of their being the same species, but younger birds or females. The male, like the Muscovy Drake and many others, when arrived at his full size is nearly one-third heavier than the female, and this disproportion of weight, and difference of color, in the full grown males and females are characteristic of the whole genus.

SPECIES IV. *MERGUS CUCULLATUS*.

HOODED MERGANSER.

[Plate LXIX. Fig. 1.]

L'Harle huppé de Virginie, BRISS. VI., p. 258, 8.—*Pl. Enl.* 935 male, 936 female.—*L'Harle couronné*, BUFF. VIII., p. 280.—*Round-crested Duck*. EDW. pl. 360.—CATESB. I., pl. 94.—*Arct. Zool.* No. 467.—LATH. *Syn.* 10, p. 426.

THIS species on the seacoast is usually called the *Hairy head*. They are more common, however, along our lakes and fresh-water rivers than near the sea; tracing up creeks, and visiting mill ponds, diving perpetually for their food. In the creeks and rivers of the Southern States they are very frequently seen during the winter. Like the *Red-breasted* they are migratory, the manners, food, and places of resort of both being very much alike.

The Hooded Merganser is eighteen inches in length, and two feet in extent; bill blackish red, narrow, thickly toothed, and furnished with a projecting nail at the extremity; the head is ornamented with a large circular crest, which the bird has the faculty of raising or depressing at pleasure; the fore part of this, as far as the eye, is black, thence to

the hind head white and elegantly tipped with black ; it is composed of two separate rows of feathers, radiating from each side of the head, and which may be easily divided by the hand ; irides golden ; eye very small ; neck black, which spreads to and over the back ; part of the lesser wing coverts very pale ash, under which the greater coverts and secondaries form four alternate bars of black and white, tertials long, black, and streaked down the middle with white ; the black on the back curves handsomely round in two points on the breast, which, with the whole lower parts, are pure white ; sides under the wings and flanks reddish brown, beautifully crossed with parallel lines of black ; tail pointed, consisting of twenty feathers of a sooty brown ; legs and feet flesh colored ; claws large and stout. The windpipe has a small labyrinth.

The female is rather less, the crest smaller and of a light rust or dull ferruginous color, entirely destitute of the white ; the upper half of the neck a dull drab, with semicircles of lighter, the white on the wings is the same as in the male ; but the tertials are shorter and have less white ; the back is blackish brown ; the rest of the plumage corresponds very nearly with the male.

This species is peculiar to America ; is said to arrive at Hudson's Bay about the end of May ; builds close to the lakes ; the nest is composed of grass lined with feathers from the breast ; is said to lay six white eggs. The young are yellow, and fit to fly in July.*

* Hutchins, as quoted by Latham.

GENUS XCVII. ANAS. DUCK

SPECIES I. *ANAS CANADENSIS*.

CANADA GOOSE.

[Plate LXVII. Fig. 4.]

L'Oye sauvage de Canada, BRISS. VI., p. 272, 4, pl. 26.—*L'Oie à cravate*, BUFF. IX., p. 82.—EDW. pl. 151.—*Arct. Zool.* No. 471.—CATESBY, I., pl. 92.—LATH. *Syn.* III., p. 450.*

THIS is the common Wild Goose of the United States, universally known over the whole country; whose regular periodical migrations are the sure signals of returning spring, or approaching winter. The tracts of their vast migratory journeys are not confined to the seacoast or its vicinity. In their aerial voyages to and from the north, these winged pilgrims pass over the interior on both sides of the mountains, as far west, at least, as the Osage river, and I have never yet visited any quarter of the country where the inhabitants are not familiarly acquainted with the regular passing and repassing of the Wild Geese. The general opinion here is that they are on their way to the lakes to breed; but the inhabitants on the confines of the great lakes that separate us from Canada, are equally ignorant with ourselves of the particular breeding places of those birds. *There* their journey north is but commencing, and how far it extends it is impossible for us at present to ascertain, from our little acquaintance with these frozen regions. They were seen by Hearne in large flocks within the arctic circle, and were then pursuing their way still further north. Captain Phipps speaks of seeing Wild Geese feeding at the water's edge, on the dreary coast of Spitzbergen, in lat. $80^{\circ} 27'$. It is highly probable that they extend their migrations under the very pole itself, amid the silent desolation of unknown countries, shut out ever since creation from the prying eye of man by everlasting and insuperable barriers of ice. That such places abound with their suitable food we cannot for a moment doubt; while the absence of their great destroyer man, and the splendors of a perpetual day, may render such regions the most suitable for their purpose.

Having fulfilled the great law of nature, the approaching rigors of

* *Anas Canadensis*, GMEL. *Syst.* I., p. 514.—*Pl. Enl.* 346.—*Ind. Orn.*, p. 838, No. 17.

that dreary climate oblige these vast congregated flocks to steer for the more genial regions of the south. And no sooner do they arrive at those countries of the earth inhabited by man, than carnage and slaughter is commenced on their ranks. The English at Hudson's Bay, says Pennant, depend greatly on Geese, and in favorable years kill three or four thousand, and barrel them up for use. They send out their servants as well as Indians to shoot these birds on their passage. It is in vain to pursue them; they therefore form a row of huts, made of boughs, at musket-shot distance from each other, and place them in a line across the vast marshes of the country. Each stand, or *hovel*, as they are called, is occupied by only a single person. These attend the flight of the birds, and on their approach mimic their cackle so well, that the Geese will answer and wheel and come nearer the stand. The sportsman keeps motionless, and on his knees with his gun cocked the whole time, and never fires till he has seen the eyes of the Geese. He fires as they are going from him, then picks up another gun that lies by him and discharges that. The Geese which he has killed he sets upon sticks, as if alive, to decoy others; he also makes artificial birds for the same purpose. In a good day, for they fly in very uncertain and unequal numbers, a single Indian will kill two hundred. Notwithstanding every species of Goose has a different call, yet the Indians are admirable in their imitations of every one. The autumnal flight lasts from the middle of August to the middle of October; those which are taken in this season, when the frosts begin, are preserved in their feathers, and left to be frozen for the fresh provisions of the winter stock. The feathers constitute an article of commerce, and are sent to England.

The vernal flight of the Geese lasts from the middle of April until the middle of May. Their first appearance coincides with the thawing of the swamps, when they are very lean. Their arrival from the south is impatiently attended; it is the harbinger of the spring, and the month named by the Indians the Goose moon. They appear usually at their settlements about St. George's Day, O. S., and fly northward to nestle in security. They prefer islands to the continent, as farther from the haunts of man.*

After such prodigious havoc as thus appears to be made among these birds, and their running the gauntlet, if I may so speak, for many hundreds of miles through such destructive fires, no wonder they should have become more scarce, as well as shy, by the time they reach the shores of the United States.

Their first arrival on the coast of New Jersey is early in October, and their first numerous appearance is the sure prognostic of severe weather. Those which continue all winter frequent the shallow bays and marsh

* Arct. Zool.

islands; their principal food being the broad tender green leaves of a marine plant which grows on stones and shells, and is usually called sea-cabbage; and also the roots of the sedge, which they are frequently observed in the act of tearing up. Every few days they make an excursion to the inlets on the beach for gravel. They cross, indiscriminately, over land or water, generally taking the nearest course to their object; differing in this respect from the Brant, which will often go a great way round by water rather than cross over the land. They swim well; and if wing-broken, dive and go a great way under water, causing the sportsman a great deal of fatigue before he can kill them. Except in very calm weather they rarely sleep on the water, but roost all night in the marshes. When the shallow bays are frozen, they seek the mouths of inlets near the sea, occasionally visiting the air holes in the ice; but these bays are seldom so completely frozen as to prevent them from feeding on the bars.

The flight of the Wild Geese is heavy and laborious, generally in a straight line, or in two lines approximating to a point, thus $>$; in both cases the van is led by an old gander, who every now and then pipes his well known *honk*, as if to ask how they come on, and the honk of "all's well" is generally returned by some of the party. Their course is in a straight line, with the exception of the undulations of their flight. When bewildered in foggy weather, they appear sometimes to be in great distress, flying about in an irregular manner, and for a considerable time over the same quarter, making a great clamor. On these occasions should they approach the earth, and alight, which they sometimes do, to rest and re-collect themselves, the only hospitality they meet with is death and destruction from a whole neighborhood already in arms for their ruin.

Wounded Geese have, in numerous instances, been completely domesticated, and readily pair with the tame Gray Geese. The offspring are said to be larger than either; but the characteristic marks of the Wild Goose still predominate. The gunners on the seashore have long been in the practice of taming the wounded of both sexes, and have sometimes succeeded in getting them to pair and produce. The female always seeks out the most solitary place for her nest, not far from the water. On the approach of every spring, however, these birds discover symptoms of great uneasiness, frequently looking up into the air, and attempting to go off. Some whose wings have been closely cut, have travelled on foot in a northern direction, and have been found at the distance of several miles from home. They hail every flock that passes overhead, and the salute is sure to be returned by the voyagers, who are only prevented from alighting among them by the presence and habitations of man. The gunners take one or two of these domesticated Geese with them to those parts of the marshes over which the wild ones

are accustomed to fly; and concealing themselves within gun-shot, wait for a flight, which is no sooner perceived by the decoy Geese, than they begin calling aloud, until the whole flock approaches so near as to give them an opportunity of discharging two and sometimes three loaded muskets among it, by which great havoc is made.

The Wild Goose, when in good order, weighs from ten to twelve, and sometimes fourteen pounds. They are sold in the Philadelphia markets at from seventy-five cents to one dollar each; and are estimated to yield half a pound of feathers a piece, which produces twenty-five or thirty cents more.

The Canada Goose is now domesticated in numerous quarters of the country, and is remarked for being extremely watchful, and more sensible of approaching changes in the atmosphere than the common Gray Goose. In England, France, and Germany, they have also been long ago domesticated. Buffon, in his account of this bird, observes, "within these few years many hundreds inhabited the great canal at Versailles, where they breed familiarly with the Swans; they were oftener on the grassy margins than in the water;" and adds, "there is at present a great number of them on the magnificent pools that decorate the charming gardens of Chantilly." Thus has America already added to the stock of domestic fowls two species, the Turkey and the Canada Goose, superior to most in size, and inferior to none in usefulness; for it is acknowledged by an English naturalist of good observation, that this last species "is as familiar, breeds as freely, and is in every respect as valuable as the common Goose."*

The strong disposition of the wounded Wild Geese to migrate to the north in spring, has been already taken notice of. Instances have occurred where, their wounds having healed, they have actually succeeded in mounting into the higher regions of the air, and joined a passing party to the north; and, extraordinary as it may appear, I am well assured by the testimony of several respectable persons, who have been eye-witnesses to the fact, that they have been also known to return again in the succeeding autumn to their former habitation. These accounts are strongly corroborated by a letter which I some time ago received from an obliging correspondent at New York; which I shall here give at large, permitting him to tell his story in his own way, and conclude my history of this species.

"Mr. Platt, a respectable farmer on Long Island, being out shooting in one of the bays which, in that part of the country, abound with water fowl, wounded a Wild Goose. Being wing-tipped, and unable to fly, he caught it, and brought it home alive. It proved to be a female; and turning it into his yard, with a flock of tame Geese, it soon became

* Bewick, v. ii., p. 255.

quite tame and familiar, and in a little time its wounded wing entirely healed. In the following spring, when the Wild Geese migrate to the northward, a flock passed over Mr. Platt's barn yard; and just at that moment their leader happening to sound his bugle-note, our Goose, in whom its new habits and enjoyments had not quite extinguished the love of liberty, and remembering the well-known sound, spreads its wings, mounted into the air, joined the travellers, and soon disappeared. In the succeeding autumn the Wild Geese (as was usual) returned from the northward in great numbers, to pass the winter in our bays and rivers. Mr. Platt happened to be standing in his yard when a flock passed directly over his barn. At that instant, he observed three Geese detach themselves from the rest, and after wheeling round several times, alight in the middle of the yard. Imagine his surprise and pleasure, when by certain well remembered signs, he recognised in one of the three his long lost fugitive. It was she indeed! She had travelled many hundred miles to the lakes; had there hatched and reared her offspring; and had now returned with her little family, to share with them the sweets of civilized life.

"The truth of the foregoing relation can be attested by many respectable people, to whom Mr. Platt has related the circumstances as above detailed. The birds were all living, and in his possession, about a year ago, and had shown no disposition whatever to leave him."

The length of this species is three feet, extent five feet two inches; the bill is black; irides dark hazel; upper half of the neck black, marked on the chin and lower part of the head with a large patch of white, its distinguishing character; lower part of the neck before white; back and wing-coverts brown, each feather tipped with whitish; rump and tail black; tail coverts and vent white; primaries black, reaching to the extremity of the tail; sides pale ashy brown; legs and feet blackish ash.

The male and female are exactly alike in plumage.

SPECIES II. *ANAS HYPERBOREA*.

SNOW GOOSE.

[Plate LVIII. Fig. 5, Male.]

L'Oye de Neige, BRISS. VI., p. 288, 10.—*White Brant*, LAWSON'S *Carolina*, p. 157.—*Arct. Zool.* No. 477.—*Phil. Trans.* 62, p. 413.—LATH. *Syn.* III., p. 445.*

THIS bird is particularly deserving of the further investigation of naturalists; for, if I do not greatly mistake, English writers have, from the various appearances which this species assumes in its progress to perfect plumage, formed no less than four different kinds, which they describe as so many distinct species, viz., the *Snow Goose*, the *White fronted* or *Laughing Goose*, the *Bean Goose*, and the *Blue-winged Goose*; all of which, I have little doubt, will hereafter be found to be nothing more than perfect and imperfect individuals, male and female, of the *Snow Goose*, now before us.†

This species, called on the seacoast the *Red Goose*, arrives in the river Delaware from the north, early in November, sometimes in considerable flocks, and is extremely noisy, their notes being shriller and more squeaking than those of the *Canada*, or common *Wild Goose*. On their first arrival they make but a short stay, proceeding, as the depth of winter approaches, farther to the south; but from the middle of February until the breaking up of the ice in March, they are frequently numerous along both shores of the Delaware, about and below Reedy Island, particularly near Old Duck Creek, in the state of Delaware. They feed on the roots of the reeds there, tearing them up from the marshes like hogs. Their flesh, like most others of their tribe that feed on vegetables, is excellent.

The *Snow Goose* is two feet eight inches in length, and five feet in extent; the bill is three inches in length, remarkably thick at the base, and rising high in the forehead; but becomes small and compressed at the extremity, where each mandible is furnished with a whitish rounding

* *Anas hyperborea*, GMEL. *Syst.* I., p. 504, No. 54.—*Ind. Orn.* p. 837, No. 14.—TEMN. *Man. d'Orn.* p. 816.

† This conjecture of our author is partly erroneous. The *Snow Goose* and the *Blue-winged Goose* are synonymous; but the other two named are distinct species, the characters of which are well defined by late ornithologists.

nail; the color of the bill is a purplish carmine; the edges of the two mandibles separate from each other in a singular manner for their whole length, and this gibbosity is occupied by dentated rows resembling teeth, these and the parts adjoining being of a blackish color; the whole plumage is of a snowy whiteness, with the exception, first of the fore part of the head all round as far as the eyes, which is of a yellowish rust color intermixed with white, and second, the nine exterior quill feathers, which are black shafted with white, and white at the root, the coverts of these last, and also the bastard wing, is sometimes of a pale ash color; the legs and feet of the same purplish carmine as the bill; iris dark hazel; the tail is rounded, and consists of sixteen feathers; that and the wings when shut, nearly of a length.

The bill of this bird is singularly curious; the edges of the upper and lower gibbosities have each twenty-three indentations, or strong teeth on each side; the inside or concavity of the upper mandible has also seven lateral rows of strong projecting teeth; and the tongue, which is horny at the extremity, is armed on each side with thirteen long and sharp bony teeth, placed like those of a saw with their points directed backwards; the tongue, turned up and viewed on its lower side, looks very much like a human finger with its nail. This conformation of the mandibles, exposing two rows of strong teeth, has probably given rise to the epithet *Laughing*, bestowed on one of its varieties; though it might with as much propriety have been named the Grinning Goose.

The specimen from which the above figure and description were taken, was shot on the Delaware, below Philadelphia, on the fifteenth of February; and on dissection proved to be a male; the windpipe had no labyrinth, but for an inch or two before its divarication into the lungs, was inflexible, not extensile like the rest, and rather wider in diameter. The gullet had an expansion before entering the stomach; which last was remarkably strong, the two great grinding muscles being nearly five inches in diameter. The stomach was filled with fragments of the roots of reeds, and fine sand. The intestines measured eight feet in length, and were not remarkably thick. The liver was small. For the young and female of this species, see Plate LXIX., fig. 5.

Latham observes that this species is very numerous at Hudson's Bay; that they visit Severn river in May, and stay a fortnight, but go farther north to breed; they return to Severn Fort the beginning of September, and stay till the middle of October, when they depart for the south, and are observed to be attended by their young in flocks innumerable. They seem to occupy also the western side of America, as they were seen at Aoonalashka* as well as Kamtschatka.† White Brant with black tips to their wings, were also shot by Captains Lewis and

* Ellis's Narr.

† Hist. Kamtsch.

Clark's exploring party, near the mouth of the Columbia river, which were probably the same as the present species.* Mr. Pennant says "they are taken by the Siberians in nets, under which they are decoyed by a person covered with a white skin, and crawling on all-fours; when others driving them, these *stupid* birds mistaking him for their leader, follow him, when they are entangled in the nets, or led into a kind of pound made for the purpose!" We might here with propriety add—*This wants confirmation.*

ANAS HYPERBOREA.

YOUNG OF THE SNOW GOOSE.

[Plate LXIX. Fig. 5, Female.]

Bean Goose? LATH. Syn. III., p. 464.—*White-fronted Goose?* Ibid. III., p. 463.—*Arct. Zool.* No. 474. *Blue-winged Goose?* LATH. Syn. III., p. 469.†

THE full plumaged perfect male bird of this species has already been figured in the preceding plate, and I now hazard a conjecture, founded on the best examination I could make of the young bird here figured, comparing it with the descriptions of the different accounts above referred to, that the whole of them have been taken from the various individuals of the present, in a greater or lesser degree of approach to its true and perfect colors.

These birds pass along our coasts, and settle in our rivers, every autumn; among thirty or forty there are seldom more than six or eight pure white, or old birds. The rest vary so much that no two are exactly alike; yet all bear the most evident marks in the particular structure of their bills, &c., of being the same identical species. A gradual change so great, as from a bird of this color to one of pure white, must necessarily produce a number of varieties, or differences in the appearance of the plumage, but the form of the bill and legs remains the same, and any peculiarity in either is the surest means we have to detect a species under all its various appearances. It is therefore to be regretted, that the authors above referred to in the synonymes, have paid so little attention to the singular conformation of the bill; for even in their

* GASS'S Journal, p. 161.

† *Anas cærulescens*, GMEL. Syst. I, p. 513, No. 12.—*Ind. Orn.* p. 836, No. 13. *Blue-winged Goose*, LATH. Sup. II., p. 346, No. 8.—*L'Oye sauvage de la Baye de Hudson*, BRISS. VI, p. 275, No. 5.—*L'Oye des Esquimaux*, BUFF. IX., p. 80.

description of the Snow Goose, neither that nor the internal peculiarities, are at all mentioned.

The length of the bird represented in our plate, was twenty-eight inches, extent four feet eight inches; bill gibbous at the sides both above and below, exposing the teeth of the upper and lower mandibles, and furnished with a nail at the tip on both; the whole being of a light reddish purple or pale lake, except the gibbosity, which is black, and the two nails, which are of a pale light blue; nostril pervious, an oblong slit, placed nearly in the middle of the upper mandible; irides dark brown; whole head and half of the neck white; rest of the neck and breast, as well as upper part of the back, of a purplish brown, darkest where it joins the white; all the feathers being finely tipped with pale brown; whole wing coverts very pale ash, or light lead color, primaries and secondaries black; tertials long, tapering, centered with black, edged with light blue, and usually fall over the wing; scapulars cinereous brown; lower parts of the back and rump of the same light ash as the wing coverts; tail rounded, blackish, consisting of sixteen feathers edged and tipped broadly with white; tail coverts white; belly and vent whitish, intermixed with cinereous; feet and legs of the same lake color as the bill.

This specimen was a female; the tongue was thick and fleshy, armed on each side with thirteen strong bony teeth, exactly similar in appearance as well as in number, to those on the tongue of the Snow Goose; the inner concavity of the upper mandible was also studded with rows of teeth. The stomach was extremely muscular, filled with some vegetable matter, and clear gravel.

With this another was shot, differing considerably in its markings, having little or no white on the head, and being smaller; its general color dark brown intermixed with pale ash, and darker below, but evidently of the same species with the other.

SPECIES III. *ANAS BERNICLA*.

THE BRANT.

[Plate LXXII. Fig. 1.]

Le Cravant, BRISS. VI., p. 304, 16, pl. 31.—BUFF. IX., p. 87.—BEWICK, II., p. 277.
—LATH. *Syn.* III., p. 467.—*Arch. Zool.* No. 478.*

THE Brant, or as it is usually written *Brent*, is a bird well known on both continents, and celebrated in former times throughout Europe for the singularity of its origin, and the strange transformations it was supposed to undergo previous to its complete organization. Its first appearance was said to be in the form of a barnacle shell adhering to old water-soaked logs, trees, or other pieces of wood taken from the sea. Of this *Goose-bearing tree* Gerard, in his *Herbal*, published in 1597, has given a formal account, and seems to have reserved it for the conclusion of his work as being the most wonderful of all he had to describe. The honest naturalist however, though his belief was fixed, acknowledges that his own personal information was derived from certain shells, which adhered to a rotten tree that he dragged out of the sea between Dover and Romney in England; in some of which he found "living things without forme or shape; in others which were nearer come to ripeness, living things that were very naked, in shape like a birde; in others the birds covered with soft downe, the shell half open and the birde readie to fall out, which no doubt were the foules called Barnakles."† Ridiculous and chimerical as this notion was, it had many advocates, and was at that time as generally believed, and with about as much reason too, as the present opinion of the annual submersion of swallows, so tenaciously insisted on by some of our philosophers, and which, like the former absurdity, will in its turn disappear before the penetrating radiance and calm investigation of truth.

The Brant and Barnacle Goose, though generally reckoned two different species, I consider to be the same.‡ Among those large flocks

* *Anas Bernicla*, GMEL. *Syst.* I., p. 513, No. 13.—*Ind. Orn.* p. 844, No. 32.—*Le Cravant*, BUFF. *Pl. Enl.* 342. *Oie Cravant*, TEMM. *Man. d'Orn.* p. 824.

† See Gerard's *Herbal*, Art. *Goose-bearing Tree*.

‡ The ridiculous account of the origin of the Barnacle Goose, extracted from the *Herbal* of Gerard, is retained for the amusement of the reader; but it is necessary to state, that the opinion of our author with respect to the identity of the Brant and Barnacle is erroneous, these birds forming distinct species.

that arrive on our coasts about the beginning of October, individuals frequently occur corresponding in their markings with that called the Barnacle of Europe, that is, in having the upper parts lighter, and the front, cheeks, and chin whitish. These appear evidently a variety of the Brant, probably young birds; what strengthens this last opinion is the fact that none of them are found so marked on their return northward in the spring.

The Brant is expected at Egg Harbor on the coast of New Jersey about the first of October, and has been sometimes seen as early as the twentieth of September. The first flocks generally remain in the bay a few days, and then pass on to the south. On recommencing their journey, they collect in one large body, and making an extensive spiral course, some miles in diameter, rise to a great height in the air, and then steer for the sea, over which they uniformly travel; often making wide circuits to avoid passing over a projecting point of land. In these aerial routes they have been met with many leagues from shore, travelling the whole night. Their line of march very much resembles that of the Canada Goose, with this exception, that frequently three or four are crowded together in the front, as if striving for precedence. Flocks continue to arrive from the north, and many remain in the bay till December, or until the weather becomes very severe, when these also move off southwardly. During their stay they feed on the bars at low water, seldom or never in the marshes; their principal food being a remarkably long and broad-leaved marine plant, of a bright green color, which adheres to stones, and is called by the country people sea cabbage; the leaves of this are sometimes eight or ten inches broad by two or three feet in length; they also eat small shell fish. They never dive, but wade about feeding at low water. During the time of high water they float in the bay in long lines, particularly in calm weather. Their voice is hoarse and honking, and when some hundreds are screaming together, reminds one of a pack of hounds in full cry. They often quarrel among themselves, and with the Ducks, driving the latter off their feeding ground. Though it never dives in search of food, yet when wing broken the Brant will go one hundred yards at a stretch under water; and is considered, in such circumstances, one of the most difficult birds to kill. About the fifteenth or twentieth of May they reappear on their way north; but seldom stop long, unless driven in by tempestuous weather.

The breeding place of the Brant is supposed to be very far to the north. They are common at Hudson's Bay, very numerous in winter on the coasts of Holland and Ireland; are called in Shetland Harra Geese, from their frequenting the sound of that name; they also visit the coast of England. Buffon relates, that in the severe winters of 1740 and 1765, during the prevalence of a strong north wind, the Brant

visited the coast of Picardy in France, in prodigious multitudes, and committed great depredations on the corn, tearing it up by the roots, trampling and devouring it; and notwithstanding the exertions of the inhabitants, who were constantly employed in destroying them, they continued in great force until a change of weather carried them off.

The Brant generally weighs about four pounds avoirdupois, and measures two feet in length, and three feet six inches in extent; the bill is about an inch and a half long, and black; the nostril large, placed nearly in its middle; head, neck, and breast black, the neck marked with a spot of white, about two inches below the eye; belly pale ash edged with white; from the thighs backwards white; back and wing coverts dusky brownish black, the plumage lightest at the tips; rump and middle of the tail coverts black, the rest of the tail coverts pure white, reaching nearly to the tip of the tail, the whole of which is black, but usually concealed by the white coverts; primaries and secondaries deep black; legs also black; irides dark hazel.

The only material difference observable between the plumage of the male and female, is, that in the latter the white spot on the neck is less, and more mottled with dusky. In young birds it is sometimes wanting, or occurs on the front, cheeks, and chin; and sometimes the upper part of the neck, only, is black,* but in full plumaged birds, of both sexes, the markings are very much alike.

The Brant is often seen in our markets for sale. Its flesh, though esteemed by many, tastes somewhat sedgy, or fishy.

* The figure of this bird given by Bewick, is in that state.

SPECIES IV. *ANAS CLYPEATA*.

SHOVELLER.

[Plate LXVII. Fig. 7.]

Le Souchet, BRISS. VI., p. 329, 6, pl. 32, fig. 1.—BUFF. IX., 191.—*Pl. Enl.* 971.—*Arct. Zool.* No. 485.—CATESB. I., pl. 96, female.—LATH. *Syn.* III., p. 509.*

IF we accept the singularly formed and disproportionate size of the bill, there are few Ducks more beautiful, or more elegantly marked than this. The excellence of its flesh, which is uniformly juicy, tender, and well tasted, is another recommendation to which it is equally entitled. It occasionally visits the seacoast; but is more commonly found on our lakes and rivers, particularly along their muddy shores, where it spends great part of its time in searching for small worms, and the larvæ of insects, sifting the watery mud through the long and finely set teeth of its curious bill, which is admirably constructed for the purpose; being large, to receive a considerable quantity of matter, each mandible bordered with close-set, pectinated rows, exactly resembling those of a weaver's reed, which fitting into each other form a kind of sieve, capable of retaining very minute worms, seeds, or insects, which constitute the principal food of the bird.

The Shoveller visits us only in the winter, and is not known to breed in any part of the United States. It is a common bird of Europe, and, according to M. Baillon, the correspondent of Buffon, breeds yearly in the marshes in France. The female is said to make her nest on the ground, with withered grass, in the midst of the largest tufts of rushes or coarse herbage, in the most inaccessible part of the slaky marsh, and lays ten or twelve pale rust-colored eggs; the young, as soon as hatched, are conducted to the water by the parent birds. They are said to be at first very shapeless and ugly, for the bill is then as broad as the body, and seems too great a weight for the little bird to carry. Their plumage does not acquire its full colors until after the second moult.

* We add the following synonymes.—*Anas clypeata*, GMEL. *Syst.* I., p. 518, No. 19. *A. Mexicana*, Id. p. 519, No. 81?—*A. rubens*, Id. No. 82.—LATH. *Ind. Orn.* p. 856, No. 60; p. 857, No. 61, No. 62. *Gen. Syn.* III., p. 511, No. 56; p. 512, No. 57. *Blue-wing Shoveller*, CATESBY, I., pl. 96, female.—*Br. Zool.* No. 280, No. 281.—*Le Souchet du Mexique*, BRISS. VI., p. 337. *Le Canard Sauvage du Mexique*, Id. p. 327, No. 5.—*Canard Souchet*, TEMM. *Man. d'Orn.* p. 842.—BEWICK, II., p. 310, 313

The Blue-winged Shoveller is twenty inches long, and two feet six inches in extent; the bill is brownish black, three inches in length, greatly widened near the extremity, closely pectinated on the sides, and furnished with a nail on the tip of each mandible; irides bright orange; tongue large and fleshy; the inside of the upper and outside of the lower mandible are grooved so as to receive distinctly the long, separated reed-like teeth; there is also a gibbosity in the two mandibles, which do not meet at the sides, and this vacuity is occupied by the sifters just mentioned; head and upper half of the neck glossy, changeable green; rest of the neck and breast white, passing round and nearly meeting above; whole belly dark reddish chestnut; flanks a brownish yellow, pencilled transversely with black, between which and the vent, which is black, is a band of white; back blackish brown, exterior edges of the scapulars white; lesser wing coverts and some of the tertials a fine light sky-blue; beauty spot on the wing a changeable resplendent bronze green, bordered above by a band of white, and below with another of velvety black; rest of the wing dusky, some of the tertials streaked down their middles with white; tail dusky, pointed, broadly edged with white; legs and feet reddish orange, hind toe not finned.

With the above another was shot, which differed in having the breast spotted with dusky, and the back with white; the green plumage of the head intermixed with gray, and the belly with circular touches of white; evidently a young male in its imperfect plumage.

The female has the crown of a dusky brown; rest of the head and neck yellowish white, thickly spotted with dark brown; these spots on the breast become larger, and crescent-shaped; back and scapulars dark brown, edged and centered with yellow ochre; belly slightly rufous, mixed with white; wing nearly as in the male.

On dissection the labyrinth in the windpipe of the male was found to be small; the trachea itself seven inches long; the intestines nine feet nine inches in length, and about the thickness of a crow quill.

SPECIES V. *ANAS BOSCHAS*.

THE MALLARD.

[Plate LXX. Fig. 7.]

LATH. *Syn.* III., p. 489.—BEWICK, II., p. 291.—*Le Canard Sauvage*, BRISS. VI., p. 318, 4.—BUFF. IX., p. 115, pl. 7, 8.*

THE Mallard, or common Wild Drake, is so universally known as scarcely to require a description. It measures twenty-four inches in length, by three feet in extent, and weighs upwards of two pounds and a half;† the bill is greenish yellow; irides hazel; head and part of the neck deep glossy changeable green, ending in a narrow collar of white; the rest of the neck and breast are of a dark purplish chestnut; lesser wing coverts brown ash, greater crossed near the extremities with a band of white, and tipped with another of deep velvety black; below this lies the speculum, or beauty spot, of a rich and splendid light purple, with green and violet reflections, bounded on every side with black; quills pale brownish ash; back brown, skirted with paler; scapulars whitish, crossed with fine undulating lines of black; rump and tail coverts black glossed with green, tertials very broad and pointed at the ends; tail consisting of eighteen feathers, whitish, centered with brown ash, the four middle ones excepted, which are narrow, black glossed with violet, remarkably concave, and curled upwards to a complete circle; belly and sides a fine gray, crossed by an infinite number of fine waving lines, stronger and more deeply marked as they approach the vent; legs and feet orange red.

The female has the plumage of the upper parts dark brown broadly bordered with brownish yellow; and the lower parts yellow ochre spotted and streaked with deep brown; the chin and throat for about two inches, plain yellowish white; wings, bill, and legs, nearly as in the male.

The windpipe of the male has a bony labyrinth, or bladder-like knob

* *Anas Boschas*, GMEL. *Syst.* I., p. 538, No. 40.—*Ind. Orn.* p. 850, No. 49.—*Arct. Zool.* No. 494.—*Br. Zool.* No. 279.—*Le Canard Sauvage*, *Pl. Enl.* 776, male; 777, female.

† Mr. Ord shot a male on the Delaware, in the month of April, which weighed three pounds five ounces; and he saw them in Florida, in the winter, when they are fatter than in the spring, of greater weight. In the month of March he shot two females, in East Florida, weighing two pounds each.

puffing out from the left side. The intestines measure six feet, and are as wide as those of the Canvas-back. The windpipe is of uniform diameter until it enters the labyrinth.

This is the original stock of the common domesticated Duck, reclaimed, time immemorial, from a state of nature, and now become so serviceable to man. In many individuals the general garb of the tame Drake seems to have undergone little or no alteration; but the stamp of slavery is strongly imprinted in his dull indifferent eye, and grovelling gait; while the lofty look, long tapering neck, and sprightly action of the former, bespeak his native spirit and independence.

The common Wild Duck is found in every fresh-water lake and river of the United States in winter; but seldom frequents the seashores or salt marshes. Their summer residence is the north, the great nursery of this numerous genus. Instances have been known of some solitary pairs breeding here in autumn. In England these instances are more common. The nest is usually placed in the most solitary recesses of the marsh, or bog, amidst coarse grass, reeds, and rushes, and generally contains from twelve to sixteen eggs of a dull greenish white. The young are led about by the mother in the same manner as those of the tame Duck; but with a superior caution, a cunning and watchful vigilance peculiar to her situation. The male attaches himself to one female, as among other birds in their native state, and is the guardian and protector of her and her feeble brood. The Mallard is numerous in the rice fields of the Southern States during winter, many of the fields being covered with a few inches of water, and the scattered grains of the former harvest lying in abundance, the Ducks swim about and feed at pleasure.

The flesh of the common Wild Duck is in general and high estimation; and the ingenuity of man, in every country where it frequents, has been employed in inventing stratagems to overreach these wary birds, and procure a delicacy for the table. To enumerate all these various contrivances would far exceed our limits; a few, however, of the most simple and effective may be mentioned.

In some ponds frequented by these birds, five or six wooden figures, cut and painted so as to represent ducks, and sunk, by pieces of lead nailed on their bottoms, so as to float at the usual depth on the surface, are anchored in a favorable position for being raked from a concealment of brush, &c., on shore. The appearance of these usually attracts passing flocks, which alight, and are shot down. Sometimes eight or ten of these painted wooden ducks are fixed on a frame in various swimming postures, and secured to the bow of the gunner's skiff, projecting before it in such a manner that the weight of the frame sinks the figures to their proper depth; the skiff is then dressed with sedge or coarse grass in an artful manner, as low as the water's edge; and

under cover of this, which appears like a party of ducks swimming by a small island, the gunner floats down sometimes to the very skirts of a whole congregated multitude, and pours in a destructive and repeated fire of shot among them. In winter, when detached pieces of ice are occasionally floating in the river, some of the gunners on the Delaware paint their whole skiff or canoe white, and laying themselves flat at the bottom, with their hand over the side silently managing a small paddle, direct it imperceptibly into or near a flock, before the Ducks have distinguished it from a floating mass of ice, and generally do great execution among them. A whole flock has sometimes been thus surprised asleep, with their heads under their wings. On land, another stratagem is sometimes practised with great success. A large tight hogshhead is sunk in the flat marsh, or mud, near the place where Ducks are accustomed to feed at low water, and where otherwise there is no shelter; the edges and top are artfully concealed with tufts of long coarse grass and reeds, or sedge. From within this the gunner, unseen and unsuspected, watches his collecting prey, and when a sufficient number offers, sweeps them down with great effect. The mode of catching Wild Ducks, as practised in India,* China,† the Island of Ceylon, and some parts of South America,‡ has been often described, and seems, if reliance may be placed on those accounts, only practicable in water of a certain depth. The sportsman covering his head with a hollow wooden vessel or calabash, pierced with holes to see through, wades into the water, keeping his head only above, and thus disguised, moves in among the flock, which take the appearance to be a mere floating calabash, while suddenly pulling them under by the legs, he fastens them to his girdle, and thus takes as many as he can conveniently stow away, without in the least alarming the rest. They are also taken with snares made of horse hair, or with hooks baited with small pieces of sheep's lights, which floating on the surface, are swallowed by the ducks, and with them the hooks. They are also approached under cover of a stalking horse, or a figure formed of thin boards or other proper materials, and painted so as to represent a horse or ox. But all these methods require much watching, toil, and fatigue, and their success is but trifling when compared with that of the *Decoy* now used both in France and England,§ which, from its superiority over every other mode, is well deserving the attention of persons of this country residing in the neighborhood of extensive marshes frequented by Wild Ducks; as, by this method, Mallard and other kinds may be taken by thousands at a time. The following circumstantial account of these decoys, and the manner of taking Wild Ducks in them in England, is extracted from Bewick's History of British Birds, vol. ii., p. 294.

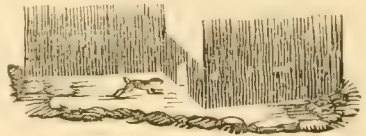
* Naval Chron. vol. ii., p. 473.

† Du Halde, Hist. China, vol. ii., p. 142.

‡ Ulloa's Voy. i., p. 53.

§ Particularly in Picardy, in the former country, and Lincolnshire in the latter

"In the lakes where they resort," says the correspondent of that ingenious author, "the most favorite haunts of the fowl are observed: then in the most sequestered part of this haunt, they cut a ditch about four yards across at the entrance, and about fifty or sixty yards in length, decreasing gradually in width from the entrance to the farther end, which is not more than two feet wide. It is of a circular form, but not bending much for the first ten yards. The banks of the lake, for about ten yards on each side of this ditch (or pipe, as it is called) are kept clear from reeds, coarse herbage, &c., in order that the fowl may get on them to sit and dress themselves. Across this ditch, poles on each side, close to the edge of the ditch, are driven into the ground, and the tops bent to each other and tied fast. These poles at the entrance form an arch, from the top of which to the water is about ten feet. This arch is made to decrease in height, as the ditch decreases in width, till the farther end is not more than eighteen inches in height. The poles are placed about six feet from each other, and connected together by poles laid lengthwise across the arch and tied together. Over them a net with meshes sufficiently small to prevent the fowl getting through, is thrown across, and made fast to a reed fence at the entrance, and nine or ten yards up the ditch, and afterwards strongly pegged to the ground. At the farther end of the pipe, a tunnel net, as it is called, is fixed, about four yards in length, of a round form, and kept open by a number of hoops about eighteen inches in diameter, placed at a small distance from each other, to keep it distended. Supposing the circular bend of the pipe to be to the right, when you stand with your back to the lake, on the left hand side a number of reed fences are constructed, called *shootings*, for the purpose of screening from sight the *decoy-man*, and in such a manner, that the fowl in the decoy may not be alarmed, while he is driving those in the pipe: these shootings are about four yards in length, and about six feet high, and are ten in number. They are placed in the following manner—



From the end of the last shooting, a person cannot see the lake, owing to the bend of the pipe: there is then no farther occasion for shelter. Were it not for those shootings, the fowl that remain about the mouth of the pipe would be alarmed, if the person driving the fowl already under the net should be exposed, and would become so shy as to forsake the place entirely. The first thing the decoy-man does when he approaches the pipe, is to take a piece of lighted turf or peat and hold it near his mouth, to prevent the fowl smelling him. He is attended by a dog taught for the purpose of assisting him: he walks very silently about half way up the shootings, where a small piece of wood

is thrust through the reed fence, which makes an aperture just sufficient to see if any fowl are in; if not, he walks forward to see if any are about the mouth of the pipe. If there are, he stops and makes a motion to his dog, and gives him a piece of cheese or something to eat; upon receiving it he goes directly to a hole through the reed fence (No. 1), and the fowl immediately fly off the bank into the water; the dog returns along the bank between the reed fences and the pipe, and comes out to his master at the hole (No. 2). The man now gives him another reward, and he repeats his round again, till the fowl are attracted by the motions of the dog, and follow him into the mouth of the pipe. This operation is called working them. The man now retreats farther back, working the dog at different holes till the fowl are sufficiently under the net: he now commands his dog to lie down still behind the fence, and goes forward to the end of the pipe next the lake, where he takes off his hat and gives it a wave between the shooting; all the fowl under the net can see him, but none that are in the lake can. The fowl that are in sight fly forward; and the man runs forward to the next shooting and waves his hat, and so on, driving them along till they come to the tunnel net, where they creep in: when they are all in, he gives the net a twist, so as to prevent their getting back: he then takes the net off from the end of the pipe with what fowl he may have caught, and takes them out one at a time, and dislocates their necks and hangs the net on again; and all is ready for working again.

“In this manner five or six dozen have been taken at one drift. When the wind blows directly in or out of the pipe, the fowl seldom work well, especially when it blows in. If many pipes are made in a lake, they should be so constructed as to suit different winds.

“Duck and Mallard are taken from August to June. Teal or Widgeon, from October to March. Becks, Smee, Golden Eyes, Arps, Cricks, and Pintails or Sea Pheasants, in March and April.

“Poker Ducks are seldom taken, on account of their diving and getting back in the pipe.

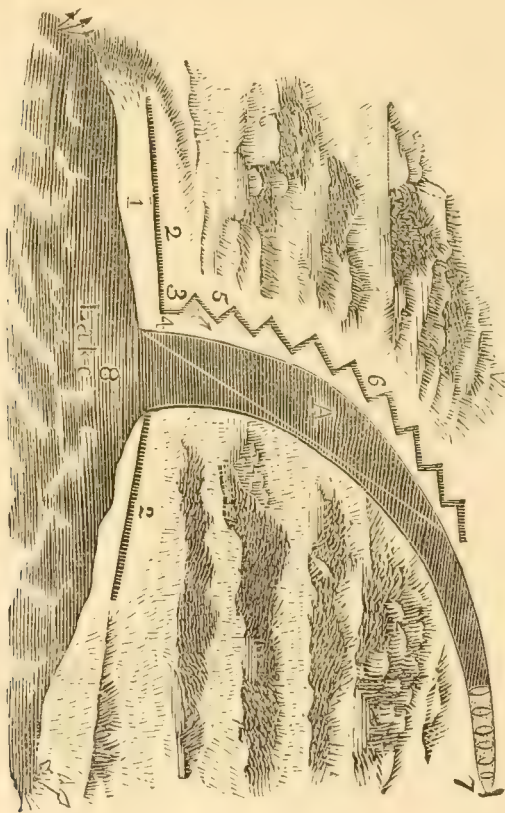
“It may be proper to observe here, that the Ducks feed during the night, and that all is ready prepared for this sport in the evening. The better to entice the Ducks into the pipe, hemp seed is strewed occasionally on the water. The season allowed by act of parliament for catching these birds in this way, is from the latter end of October till February.

“Particular spots or decoys, in the fen countries, are let to the fowlers at a rent of from five to thirty pounds per annum; and Pennant instances a season in which thirty-one thousand two hundred Ducks, including Teals and Widgeons, were sold in London only, from ten of these decoys near Wainfleet, in Lincolnshire. Formerly, according to Willoughby, the Ducks, while in moult and unable to fly, were driven

by men in boats, furnished with long poles, with which they splashed the water between long nets, stretched vertically across the pools, in the shape of two sides of a triangle, into lesser nets placed at the point; and in this way, he says, four thousand were taken at one driving in Deeping-Fen; and Latham has quoted an instance of two thousand six hundred and forty-six being taken in two days, near Spalding in Lincolnshire; but this manner of catching them while in moult is now prohibited."

REFERENCES TO THE CUT.

- No. 1. Dog's hole, where he goes to unbank the fowl.
2. Reed fences on each side of the mouth of the pipe.
3. Where the decoy-man shows himself to the fowl first, and afterwards at the end of every shooting.
4. Small reed fence to prevent the fowl seeing the dog when he goes to unbank them.
5. The shootings.
6. Dog's holes between the shootings, used when working.
7. Tunnel net at the end of the pipe.
8. Mouth of the pipe.



SPECIES VI. *ANAS STREPERA*.

THE GADWALL.

[Plate LXXI. Fig. 1, Male.]

Le Chipecau, BRISS. VI., p. 339, 8, pl. 33, fig. 1.—BUFF. IX., 187.—*Pl. Enl.* 958.—*Arct. Zool.* p. 575.—LATH. *Syn.* III., p. 515.*

THIS beautiful Duck I have met with in very distant parts of the United States, viz., on the Seneca Lake in New York, about the twentieth of October, and at Louisville on the Ohio, in February. I also shot it near Big Bone Lick in Kentucky. With its particular manners or breeding place, I am altogether unacquainted.

The length of this species is twenty inches, extent thirty-one inches; bill two inches long, formed very much like that of the Mallard, and of a brownish black; crown dusky brown, rest of the upper half of the neck brownish white, both thickly speckled with black; lower part of the neck and breast dusky black, elegantly ornamented with large concentric semicircles of white; scapulars waved with lines of white on a dusky ground, but narrower than that of the breast; primaries ash; greater wing-coverts black, and several of the lesser coverts immediately above chestnut red; speculum white, bordered below with black, forming three broad bands on the wing of chestnut, black, and white; belly dull white; rump and tail coverts black, glossed with green; tail tapering, pointed, of a pale brown ash edged with white; flanks dull white elegantly waved; tertials long, and of a pale brown, legs orange red.

The female I have never seen. Latham describes it as follows: "differs in having the colors on the wings duller, though marked the same as the male; the breast reddish brown spotted with black; the feathers on the neck and back edged with pale red; rump the same instead of black; and those elegant semicircular lines on the neck and breast wholly wanting."

The flesh of this duck is excellent, and the windpipe of the male is furnished with a large labyrinth.

The Gadwall is very rare in the northern parts of the United States;

* *Anas strepera*, GMEL. *Syst.* I., p. 520, No. 20.—*Ind. Orn.* p. 849, No. 69.—TEMN *Man. d'Orn.* p. 837.—BEWICK, II., p. 314.

is said to inhabit England in winter, and various parts of France and Italy; migrates to Sweden, and is found throughout Russia and Siberia.*

It is a very quick diver, so as to make it difficult to be shot; flies also with great rapidity, and utters a note not unlike that of the Mallard, but louder. Is fond of salines and ponds overgrown with reeds and rushes. Feeds during the day, as well as in the morning and evening.

NOTE.—A male specimen shot by Mr. Ord in East Florida, in the month of February, had its crown of a pale ferruginous, mixed with brown; head and neck yellowish white, barred and mottled with brown; back, outer scapulars, vent and flanks, brown, with pale zigzag lines; some of the inner scapulars reddish and cinereous brown; upper and under tail-coverts velvet black; legs and feet *yellow ochre*, part of the webs dusky. Weight two pounds.

This species is very rare on the Delaware; but in East Florida it is common. On the fresh-water ponds, in the vicinity of the river St. John, Mr. Ord shot many of them; and found them in good condition, and excellent eating.

SPECIES VII. *ANAS ACUTA*.

PINTAIL DUCK.

[Plate LXVIII. Fig. 3.]

Le Canard à longue queue, BRIS. VI., p. 369, 16, pl. 34, fig. 1, 2.—BUFF. IX., p. 199, pl. 13.—*Pt. Enl.* 954.—*Arct. Zool.* No. 500.—LATH. *Syn.* III., p. 526.

THE Pintail, or as it is sometimes called, the Sprigtail, is a common and well known Duck in our markets, much esteemed for the excellence of its flesh, and is generally in good order. It is a shy and cautious bird, feeds in the mud flats, and shallow fresh-water marshes; but rarely resides on the seacoast. It seldom dives, is very noisy, and has a kind of chattering note. When wounded they will sometimes dive, and coming up conceal themselves under the bow of the boat, moving round as it moves. Are vigilant in giving the alarm on the approach of the gunner, who often curses the watchfulness of the Sprigtail. Some Ducks when aroused disperse in different directions; but the Sprigtails when alarmed cluster confusedly together as they mount, and

* Latham.

thereby afford the sportsman a fair opportunity of raking them with advantage. They generally leave the Delaware about the middle of March, on the way to their native regions the north, where they are most numerous. They inhabit the whole northern parts of Europe and Asia, and doubtless the corresponding latitudes of America. Are said likewise to be found in Italy. Great flocks of them are sometimes spread along the isles and shores of Scotland and Ireland, and on the interior lakes of both these countries. On the marshy shores of some of the bays of Lake Ontario they are often plenty in the months of October and November. I have also met with them at Louisville on the Ohio.

The Pintail Duck is twenty-six inches in length, and two feet ten inches in extent; the bill is a dusky lead color; irides dark hazel; head and half of the neck pale brown, each side of the neck marked with a band of purple violet, bordering the white, hind part of the upper half of the neck black, bordered on each side by a stripe of white, which spreads over the lower part of the neck before; sides of the breast and upper part of the back white, thickly and elegantly marked with transverse undulating lines of black, here and there tinged with pale buff; throat and middle of the belly white tinged with cream; flanks finely pencilled with waving lines, vent white, under tail coverts black; lesser wing coverts brown ash, greater the same, tipped with orange, below which is the speculum or beauty spot of rich golden green bordered below with a band of black, and another of white; primaries dusky brown; tertials long, black, edged with white, and tinged with rust; rump and tail coverts pale ash centered with dark brown; tail greatly pointed, the two middle tapering feathers being full five inches longer than the others and black, the rest brown ash edged with white; legs a pale lead color.

The female has the crown of a dark brown color; neck of a dull brownish white, thickly speckled with dark brown; breast and belly pale brownish white, interspersed with white; back and root of the neck above black, each feather elegantly waved with broad lines of brownish white, these wavings become rufous on the scapulars; vent white, spotted with dark brown; tail dark brown spotted with white; the two middle tail feathers half an inch longer than the others.

The Sprigtail is an elegantly formed, long bodied Duck, the neck longer and more slender than most others.

SPECIES VIII. *ANAS AMERICANA*.

AMERICAN WIDGEON.

[Plate LXIX. Fig. 4.]

Le Canard Jensen, Pl. Enl. 955.—*Buff.* IX., p. 174.—*Arct. Zool.* No. 502.—*LATH. Syn.* III., p. 520.

THIS is a handsomely marked and sprightly species, very common in winter along our whole coast, from Florida to Rhode Island; but most abundant in Carolina, where it frequents the rice plantations. In Martinicò great flocks take short flights from one rice field to another during the rainy season, and are much complained of by the planters. The Widgeon is the constant attendant of the celebrated *Canvas-back Duck*, so abundant in various parts of the Chesapeake Bay, by the aid of whose labor he has ingenuity enough to contrive to make a good subsistence. The Widgeon is extremely fond of the tender roots of that particular species of aquatic plant on which the *Canvas-back* feeds, and for which that Duck is in the constant habit of diving. The Widgeon, who never dives, watches the moment of the *Canvas-back's* rising, and before he has his eyes well opened, snatches the delicious morsel from his mouth and makes off. On this account the *Canvas-backs* and *Widgeons*, or as they are called round the bay, *Bald-pates*, live in a state of perpetual contention. The only chance the latter have is to retreat, and make their approaches at convenient opportunities. They are said to be in great plenty in St. Domingo and Cayenne, where they are called *Vingeon* or *Gingeon*. Are said sometimes to perch on trees. Feed in company and have a sentinel on the watch, like some other birds. They feed little during the day, but in the evenings come out from their hiding places, and are then easily traced by their particular whistle or *whew whew*. This soft note or whistle is frequently imitated with success, to entice them within gunshot. They are not known to breed in any part of the United States. Are common in the winter months along the bays of Egg Harbor and Cape May, and also those of the Delaware. They leave these places in April, and appear upon the coasts of Hudson's Bay in May, as soon as the thaws come on, chiefly in pairs; lay there only from six to eight eggs; and feed on flies and worms in the swamps; depart in flocks in autumn.*

* Hutchins.

These birds are frequently brought to the market of Baltimore, and generally bring a good price, their flesh being excellent. They are of a lively frolicsome disposition, and with proper attention might easily be domesticated.

The Widgeon or Bald-pate measures twenty-two inches in length, and thirty inches in extent, the bill is of a slate color, the nail black; the front and crown cream colored, sometimes nearly white, the feathers inflated; from the eye backwards to the middle of the neck behind, extends a band of deep glossy green gold and purple; throat, chin, and sides of the neck before, as far as the green extends, dull yellowish white, thickly speckled with black; breast and hind part of the neck hoary bay, running in under the wings, where it is crossed with fine waving lines of black; whole belly white; vent black; back and scapulars black, thickly and beautifully crossed with undulating lines of vinous bay; lower part of the back more dusky; tail coverts long, pointed, whitish, crossed as the back; tail pointed, brownish ash, the two middle feathers an inch longer than the rest, and tapering; shoulder of the wing brownish ash, wing coverts immediately below white, forming a large spot; primaries brownish ash, middle secondaries black glossed with green, forming the speculum; tertials black edged with white, between which and the beauty spot several of the secondaries are white.

The female has the whole head and neck yellowish white, thickly speckled with black, very little rufous on the breast; the back is dark brown. The young males, as usual, very much like the females during the first season, and do not receive their full plumage until the second year. They are also subject to a regular change every spring and autumn.

NOTE.—A few of these birds breed annually in the marshes in the neighborhood of Duck Creek, in the state of Delaware. An acquaintance brought me thence, in the month of June, an egg, which had been taken from a nest situated in a cluster of alders; it was very much of the shape of the common Duck's egg; the color a dirty white; length two inches and a quarter, breadth one inch and five-eighths. The nest contained eleven eggs.

This species is seen on the Delaware as late as the first week of May. On the thirtieth of April last, I observed a large flock of them, accompanied by a few Mallards and Pintails, feeding upon the mud-flats, at the lower end of League Island, below Philadelphia. In the fresh-water ponds, situated in the neighborhood of the river St. John, in East Florida, they find an abundance of food during the winter; and they become excessively fat. It is needless to add that they are excellent eating.—*G. Ord.*

SPECIES IX. *ANAS OBSCURA*.

DUSKY DUCK.

[Plate LXXII. Fig. 5.]

Arct. Zool. No. 469.—*LATH. Syn.* III., p. 545.

THIS species is generally known along the seacoast of New Jersey and the neighboring country by the name of the *Black Duck*, being the most common and most numerous of all those of its tribe that frequent the salt marshes. It is only partially migratory. Numbers of them remain during the summer, and breed in sequestered places in the marsh, or on the sea islands of the beach. The eggs are eight or ten in number, very nearly resembling those of the domestic duck. Vast numbers, however, regularly migrate farther north on the approach of spring. During their residence here in winter they frequent the marshes, and the various creeks and inlets with which those extensive flats are intersected. Their principal food consists of those minute snail shells so abundant in the marshes. They occasionally visit the sandy beach in search of small bivalves, and on these occasions sometimes cover whole acres with their numbers. They roost at night in the shallow ponds, in the middle of the salt marsh, particularly on islands, where many are caught by the foxes. They are extremely shy during the day; and on the most distant report of a musket, rise from every quarter of the marsh in prodigious numbers, dispersing in every direction. In calm weather they fly high, beyond the reach of shot; but when the wind blows hard, and the gunner conceals himself among the salt grass in a place over which they usually fly, they are shot down in great numbers, their flight being then low. Geese, Brant, and Black Duck are the common game of all our gunners along this part of the coast during winter; but there are at least ten Black Ducks for one Goose or Brant, and probably many more. Their voice resembles that of the Duck and Mallard; but their flesh is greatly inferior, owing to the nature of their food. They are, however, large, heavy bodied Ducks, and generally esteemed.

I cannot discover that this species is found in any of the remote northern parts of our continent; and this is probably the cause why it is altogether unknown in Europe. It is abundant from Florida to New

England; but is not enumerated among the birds of Hudson's Bay, or Greenland. Its chief residence is on the seacoast, though it also makes extensive excursions up the tide waters of our rivers. Like the Mallard they rarely dive for food, but swim and fly with great velocity.

The Dusky, or Black Duck, is two feet in length, and three feet two inches in extent; the bill is of a dark greenish ash, formed very much like that of the Mallard, and nearly of the same length; irides dark; upper part of the head deep dusky brown, intermixed on the fore part with some small streaks of drab; rest of the head and greater part of the neck pale yellow ochre, thickly marked with small streaks of blackish brown; lower part of the neck, and whole lower parts, deep dusky, each feather edged with brownish white, and with fine seams of rusty white; upper parts the same, but rather deeper; the outer vanes of nine of the secondaries bright violet blue, forming the beauty spot, which is bounded on all sides by black; wings and tail sooty brown; tail feathers sharp pointed; legs and feet dusky yellow; lining of the wings pure white.

The female has more brown on her plumage; but in other respects differs little from the male, both having the beauty spot on the wing.

NOTE.—Of all our Ducks this is perhaps the most sagacious and the most fearful of man. In the neighborhood of Philadelphia they are found in great numbers, they are notwithstanding hard to be obtained, in consequence of their extreme vigilance, and their peculiar habits. During the day they chiefly abandon the marshes; and float in considerable bodies on the Delaware, taking their repose, with the usual precaution of employing wakeful sentinels, to give notice of danger. In the evening they resort to the muddy flats and shores, and occupy themselves throughout the greater part of the night in seeking for food. When searching out their feeding grounds, every individual is on the alert; and on the slightest appearance of an enemy the whole mount and scatter, in such a manner, that, in a flock of a hundred, it would be difficult to knock down more than two or three at one shot. Their sense of smelling is uncommonly acute, and their eyesight, if we may judge from their activity at night, must be better than that of most species. When wounded on the water, they will immediately take to the shore, if in the vicinity, and conceal themselves under the first covert, so that one accustomed to this habit can have no difficulty in finding them.—*G. Ord.*

SPECIES X. *ANAS SPONSA*.

SUMMER DUCK, OR WOOD DUCK.

[Plate LXX. Fig. 3, Male.]

Le Canard d'Été, BRISS. VI., p. 351, 11, p. 32, fig. 2.—*Le beau Canard huppé*, BUFF. IX., p. 245.—*Pl. Enl.* 980, 981.—*Summer Duck*, CATESBY, I., pl. 97.—EDW. pl. 101.—*Arct. Zool.* No. 943.—LATH. *Syn.* III., p. 546.*

THIS most beautiful of all our Ducks, has probably no superior among its whole tribe for richness and variety of colors. It is called the *Wood Duck*, from the circumstance of its breeding in hollow trees; and the *Summer Duck*, from remaining with us chiefly during the summer. It is familiarly known in every quarter of the United States, from Florida to Lake Ontario, in the neighborhood of which latter place I have myself met with it in October. It rarely visits the seashore, or salt marshes; its favorite haunts being the solitary deep and muddy creeks, ponds, and mill dams of the interior, making its nest frequently in old hollow trees that overhang the water.

The Summer Duck is equally well known in Mexico and many of the West India Islands. During the whole of our winters they are occasionally seen in the states south of the Potomac. On the tenth of January I met with two on a creek near Petersburg in Virginia. In the more northern districts, however, they are migratory. In Pennsylvania the female usually begins to lay late in April or early in May. Instances have been known where the nest was constructed of a few sticks laid in a fork of the branches; usually, however, the inside of a hollow tree is selected for this purpose. On the eighteenth of May I visited a tree containing the nest of a Summer Duck, on the banks of Tuckahoe river, New Jersey. It was an old grotesque white oak, whose top had been torn off by a storm. It stood on the declivity of the bank, about twenty yards from the water. In this hollow and broken top, and about six feet down, on the soft decayed wood, lay thirteen eggs, snugly covered with down, doubtless taken from the breast of the bird. These eggs were of an exact oval shape, less than those of a hen, the surface exceedingly fine grained, and of the highest polish and slightly yellowish, greatly resembling old polished ivory. The egg measured

* *Anas sponsa*, GMEL. *Syst.* I., p. 539, No. 43.—*Ind. Orn.* p. 876, No. 97.

two inches and an eighth by one inch and a half. On breaking one of them, the young bird was found to be nearly hatched, but dead, as neither of the parents had been observed about the tree during the three or four days preceding; and were conjectured to have been shot.

This tree had been occupied, probably by the same pair, for four successive years, in breeding time; the person who gave me the information, and whose house was within twenty or thirty yards of the tree, said that he had seen the female, the spring preceding, carry down thirteen young, one by one, in less than ten minutes. She caught them in her bill by the wing or back of the neck, and landed them safely at the foot of the tree, whence she afterwards led them to the water. Under this same tree, at the time I visited it, a large sloop lay on the stocks, nearly finished, the deck was not more than twelve feet distant from the nest, yet notwithstanding the presence and noise of the workmen, the ducks would not abandon their old breeding place, but continued to pass out and in as if no person had been near. The male usually perched on an adjoining limb, and kept watch while the female was laying; and also often while she was sitting. A tame Goose had chosen a hollow space at the root of the same tree, to lay and hatch her young in.

The Summer Duck seldom flies in flocks of more than three or four individuals together, and most commonly in pairs, or singly. The common note of the drake is *peet, peet*; but when, standing sentinel, he sees danger, he makes a noise not unlike the crowing of a young cock, *oe eek! oe eek!* Their food consists principally of acorns, seeds of the wild oats, and insects. Their flesh is inferior to that of the Blue-winged Teal. They are frequent in the markets of Philadelphia.

Among other gaudy feathers with which the Indians ornament the calumet or pipe of peace, the skin of the head and neck of the Summer Duck is frequently seen covering the stem.

This beautiful bird has often been tamed, and soon becomes so familiar as to permit one to stroke its back with the hand. I have seen individuals so tamed in various parts of the Union. Captain Boyce, collector of the port of Havre-de-Grace, informs me that about forty years ago, a Mr. Nathan Nicols, who lived on the west side of Gunpowder creek, had a whole yard swarming with Summer Ducks, which he had tamed and completely domesticated, so that they bred and were as familiar as any other tame fowls; that he (Capt. Boyce) himself saw them in that state, but does not know what became of them. Latham says that they are often kept in European menageries, and will breed there.*

The Wood Duck is nineteen inches in length, and two feet four inches in extent; bill red, margined with black; a spot of black lies between

* Gen. Syn. III., p. 547.

the nostrils, reaching nearly to the tip, which is also of the same color, and furnished with a large hooked nail; irides orange red; front, crown, and pendent crest rich glossy bronze green ending in violet, elegantly marked with a line of pure white running from the upper mandible over the eye, and with another band of white proceeding from behind the eye, both mingling their long pendent plumes with the green and violet ones, producing a rich effect; cheeks and sides of the upper neck violet; chin, throat, and collar round the neck pure white, curving up in the form of a crescent nearly to the posterior part of the eye; the white collar is bounded below with black; breast dark violet brown, marked on the fore part with minute triangular spots of white, increasing in size until they spread into the white of the belly; each side of the breast is bounded by a large crescent of white, and that again by a broader one of deep black; sides under the wings thickly and beautifully marked with fine undulating parallel lines of black, on a ground of yellowish drab; the flanks are ornamented with broad alternate semicircular bands of black and white; sides of the vent rich light violet; tail-coverts long, of a hair-like texture at the sides, over which they descend, and of a deep black glossed with green; back dusky bronze, reflecting green; scapulars black; tail tapering, dark glossy green above, below dusky; primaries dusky, silvery hoary without, tipped with violet blue; secondaries greenish blue, tipped with white; wing-coverts violet blue, tipped with black; vent dusky; legs and feet yellowish red, claws strong and hooked.

The above is as accurate a description as I can give of a very perfect specimen now before me, from which the figure in the plate was faithfully copied.

The female has the head slightly crested, crown dark purple, behind the eye a bar of white; chin, and throat for two inches, also white; head and neck dark drab; breast dusky brown, marked with large triangular spots of white; back dark glossy bronze brown, with some gold and greenish reflections. Speculum of the wings nearly the same as in the male, but the fine pencilling of the sides, and the long hair-like tail-coverts, are wanting; the tail is also shorter.

SPECIES XI. *ANAS DISCORS*.

BLUE-WINGED TEAL.

[Plate LXVIII. Fig. 4, Male.]

La Sarcelle d'Amerique, BRISS. VI., p. 452, 35.—BUFF. IX., p. 279.—*Pl. Enl.* 966.—
CATESE. I., pl. 100.—*White-faced Duck*, LATH. *Syn.* III., p. 502.—*Arct. Zool.* No. 503.*

THE Blue-winged Teal is the first of its tribe that returns to us in the autumn from its breeding place in the north. They are usually seen early in September, along the shores of the Delaware, where they sit on the mud close to the edge of the water, so crowded together that the gunners often kill great numbers at a single discharge. When a flock is discovered thus sitting and sunning themselves, the experienced gunner runs his batteau ashore at some distance below or above them, and getting out, pushes her before him over the slippery mud, concealing himself all the while behind her; by this method he can sometimes approach within twenty yards of the flock, among which he generally makes great slaughter. They fly rapidly, and when they alight drop down suddenly like the Snipe or Woodcock, among the reeds or on the mud. They feed chiefly on vegetable food, and are eagerly fond of the seeds of the reeds or wild oats. Their flesh is excellent; and after their residence for a short time among the reeds, becomes very fat. As the first frosts come on, they proceed to the south, being a delicate bird, very susceptible of cold. They abound in the inundated rice fields in the Southern States, where vast numbers are taken in traps placed on small dry eminences that here and there rise above the water. These places are strewn with rice, and by the common contrivance called a *figure four*, they are caught alive in hollow traps. In the month of April they pass through Pennsylvania for the north; but make little stay at that season. I have observed them numerous on the Hudson opposite to the Catskill Mountains. They rarely visit the seashore.

This species measures about fourteen inches in length, and twenty-two inches in extent; the bill is long in proportion, and of a dark dusky slate; the front and upper part of the head are black, from the eye to the chin is a large crescent of white, the rest of the head and half of

* *Anas discors*, GMEL. *Syst.* p. 535, No. 37.—LATH. *Ind. Orn.* p. 854, No. 55.—*Blue-winged Teal*, CATESB. pl. 99, female.—*La Sarcelle de Virginie*, BRISS. VI., p. 455, No. 36.—*La Sarcelle Soucrourou*, BUFF. IX., p. 279.—*Pl. Enl.* 403, female.

the neck is of a dark slate richly glossed with green and violet, remainder of the neck and breast is black or dusky, thickly marked with semicircles of brownish white, elegantly intersecting each other; belly pale brown, barred with dusky, in narrow lines; sides and vent the same tint, spotted with oval marks of dusky; flanks elegantly waved with large semicircles of pale brown; sides of the vent pure white; under tail-coverts black; back deep brownish black, each feather waved with large semiovals of brownish white; lesser wing-coverts a bright light blue; primaries dusky brown; secondaries black; speculum or beauty spot, rich green; tertials edged with black or light blue, and streaked down their middle with white; the tail, which is pointed, extends two inches beyond the wings; legs and feet yellow, the latter very small; the two crescents of white before the eyes meet on the throat.

The female differs in having the head and neck of a dull dusky slate instead of the rich violet of the male, the hind head is also whitish. The wavings on the back and lower parts more indistinct; wing nearly the same in both.

SPECIES XII. *ANAS CRECCA*.

GREEN-WINGED TEAL.

[Plate LXX. Fig. 4, Male.]

LATH. *Syn.* III., p. 554.—BEWICK'S *Br. Birds*, II., p. 338.*

THE naturalists of Europe have designated this little Duck by the name of the American Teal, as being a species different from their own. On an examination, however, of the figure and description of the European Teal by the ingenious and accurate Bewick, and comparing them with the present, no difference whatever appears in the length, extent, color, or markings of either, but what commonly occurs among individuals of any other tribe; both undoubtedly belong to one and the same species.

This, like the preceding, is a fresh-water Duck, common in our markets in autumn and winter; but rarely seen here in summer. It frequents ponds, marshes, and the reedy shores of creeks and rivers. Is

* *Anas crecca*, GMEL. *Syst.* I., p. 532, No. 23.—*Anas Carolinensis*, Id. p. 533, No. 103.—*Ind. Orn.* p. 872, No. 100; p. 874, No. 101.—*Common Teal*, *Gen. Syn.* III., p. 551, No. 88.—*American Teal*, Id. p. 554, No. 90.—*European Teal*, *Arct. Zool.* II., p. 305, P. 4to. *American Teal*, Id. No. 504. *Br. Zool.* No. 290.—*La petite Sarcelle*, BRISS. I., p. 436, No. 32, pl. 40, fig. 1.—BUFF. IX., p. 265, pl. 17, 18.—*Pl. Enl.* 947. TEMM. *Man. d'Orn.* p. 846.

very abundant among the rice plantations of the Southern States; flies in small parties, and feeds at night. Associates often with the Duck and Mallard, feeding on the seeds of various kinds of grasses and water plants, and also on the tender leaves of vegetables. Its flesh is accounted excellent.

The Green-winged Teal is fifteen inches in length, and twenty-four inches in extent; bill black, irides pale brown, lower eyelid whitish; head glossy reddish chestnut; from the eye backwards to the nape runs a broad band of rich silky green edged above and below by a fine line of brownish white, the plumage of the nape ends in a kind of pendent crest; chin blackish; below the chestnut, the neck, for three-quarters of an inch is white, beautifully crossed with circular undulating lines of black; back, scapulars, and sides of the breast white, thickly crossed in the same manner; breast elegantly marked with roundish or heart-shaped spots of black on a pale vinaceous ground, variegated with lighter tints; belly white; sides waved with undulating lines; lower part of the vent feathers black; sides of the same brownish white, or pale reddish cream; lesser wing-coverts brown ash, greater tipped with reddish cream; the first five secondaries deep velvety black, the next five resplendent green, forming the speculum or beauty spot, which is bounded above by pale buff, below by white, and on each side by deep black; primaries ashy brown; tail pointed, eighteen feathers, dark drab; legs and feet flesh-colored. In some a few circular touches of white appear on the breast, near the shoulder of the wing. The wind-pipe has a small bony labyrinth where it separates into the lungs; the intestines measure three feet six inches, and are very small and tender.

The female wants the chestnut bay on the head, and the band of rich green through the eye, these parts being dusky white speckled with black; the breast is gray brown, thickly sprinkled with blackish, or dark brown; the back dark brown, waved with broad lines of brownish white; wing nearly the same as in the male.

This species is said to breed at Hudson's Bay, and to have from five to seven young at a time.* In France it remains throughout the year, and builds in April, among the rushes on the edges of ponds. It has been lately discovered to breed also in England, in the mosses about Carlisle.† It is not known to breed in any part of the United States. The Teal is found in the north of Europe as far as Iceland; and also inhabits the Caspian Sea to the south. Extends likewise to China, having been recognised by Latham among some fine drawings of the birds of that country.

* Latham.

† Bewick.

SPECIES XIII. *ANAS MOLLISSIMA*.

EIDER DUCK.

[Plate LXXI. Fig. 2, Male.]

L'Oye à duvet, ou l'Eider, BRISS. VI., p. 294, pl. 29, 30.—BUFF. IX., p. 103, pl. 6.—*Pl. Enl.* 209.—*Great Black and White Duck*, EDW. pl. 98.—BEWICK, II., p. 279.—*Arct. Zool.* No. 480.—LATH. *Syn.* III., p. 470.*

THE Eider Duck has been long celebrated in Europe for the abundance and excellence of its *down*, which for softness, warmth, lightness, and elasticity surpasses that of all other Ducks. The quantity found in one nest more than filled the crown of a hat; yet weighed no more than three-quarters of an ounce;† and it is asserted that three pounds of this down may be compressed into a space scarce bigger than a man's fist; yet is afterwards so dilatable as to fill a quilt five feet square.‡

The native regions of the Eider Duck extend from 45° north to the highest latitudes yet discovered, both in Europe and America. Solitary rocky shores and islands are their favorite haunts. Some wandering pairs have been known to breed on the rocky islands beyond Portland in the district of Maine, which is perhaps the most southern extent of their breeding place. In England the Fern Isles, on the coast of Northumberland, are annually visited by a few of these birds, being the only place in South Britain where they are known to breed. They occur again in some of the Western Isles of Scotland. Greenland and Iceland abound with them, and here, in particular places, their nests are crowded so close together that a person can scarcely walk without treading on them. The natives of those countries know the value of the down, and carry on a regular system of plunder both of it and also of the eggs. The nest is generally formed outwardly of drift grass, dry seaweed, and such like materials, the inside composed of a large quantity of down plucked from the breast of the female; in this soft elastic bed she deposits five eggs, extremely smooth and glossy, of a pale olive color; they are also warmly covered with the same kind of down. When the whole number is laid, they are taken away by the natives, and also the down with which the nest is lined, together with that which covers the eggs. The female once more strips her breast of

* *Anas mollissima*, GMEL. *Syst.* I., p. 514, No. 15.—*Ind. Orn.* p. 845, No. 35.

† Pennant.

‡ Salern. *Orn.* p. 416.

the remaining down, and lays a second time; even this, with the eggs is generally taken away, and it is said that the male in this extremity furnishes the third quantity of down from his own breast; but if the cruel robbery be a third time repeated, they abandon the place altogether. One female, during the whole time of laying, generally gives half a pound of down; and we are told, that in the year 1750, the Iceland Company sold as much of this article as amounted to three thousand seven hundred and forty-five banco dollars, besides what was directly sent to Gluckstadt.* The down from dead birds is little esteemed, having lost its elasticity.

These birds associate together in flocks, generally in deep water, diving for shell fish, which constitute their principal food. They frequently retire to the rocky shores to rest, particularly on the appearance of an approaching storm. They are numerous on the coast of Labrador, and are occasionally seen in winter as far south as the capes of Delaware. Their flesh is esteemed by the inhabitants of Greenland; but tastes strongly of fish.

The length of this species is two feet three inches, extent three feet; weight between six and seven pounds; the head is large, and the bill of singular structure, being three inches in length, forked in a remarkable manner, running high up in the forehead, between which the plumage descends nearly to the nostril; the whole of the bill is of a dull yellowish horn color somewhat dusky in the middle; upper part of the head deep velvet black, divided laterally on the hind head by a whitish band; cheeks white; sides of the head pale pea green, marked with a narrow line of white dropped from the ear feathers; the plumage of this part of the head, to the throat, is tumid, and looks as if cut off at the end, for immediately below the neck it suddenly narrows, somewhat in the manner of the Buffel-head, enlarging again greatly as it descends, and has a singular hollow between the shoulders behind; the upper part of the neck, the back, scapulars, lesser wing coverts, and sides of the rump are pure white; lower part of the breast, belly, and vent black; tail, primaries and secondaries brownish black, the tertials curiously curved, falling over the wing; legs short, yellow; webs of the feet dusky.

Latham has given us the following sketch of the gradual progress of the young males to their perfect colors: "In the first year the back is white, and the usual parts, except the crown, black; but the rest of the body is variegated with black and white. In the second year the neck and breast are spotted black and white, and the crown black. In the third the colors are nearly as when in full plumage, but less vivid, and

* Letters on Iceland, by Uno Van Troil, p. 146.

a few spots of black still remaining on the neck; the crown black, and bifid at the back part.

"The young of both sexes are the same, being covered with a kind of hairy down: throat and breast whitish; and a cinereous line from the bill through the eyes to the hind head."*

ANAS MOLLISSIMA.

E I D E R D U C K.

[Plate LXXI. Fig. 3, Female.]

THE difference of color in these two birds is singularly great. The female is considerably less than the male, and the bill does not rise so high in the forehead; the general color is a dark reddish drab, mingled with lighter touches, and everywhere spotted with black; wings dusky, edged with reddish; the greater coverts and some of the secondaries are tipped with white; tail brownish black, lighter than in the male; the plumage in general is centred with bars of black, and broadly bordered with rufous drab; cheeks and space over the eye light drab; belly dusky, obscurely mottled with black; legs and feet as in the male.

Van Troil, in his Letters on Iceland, observes respecting this Duck, that "the young ones quit the nest soon after they are hatched, and follow the female, who leads them to the water, where having taken them on her back, she swims with them a few yards, and then dives, and leaves them floating on the water! In this situation they soon learn to take care of themselves, and are seldom afterwards seen on the land; but live among the rocks, and feed on insects and seaweed."

Some attempts have been made to domesticate these birds, but hitherto without success.

* Synopsis, III., p. 471.

SPECIES XIV. *ANAS PERSPICILLATA*.

BLACK, OR SURF DUCK.

[Plate LXVII. Fig. 1.]

Le grande Macreuse de la Baye de Hudson, BRISS. VI., p. 425, 30.—*La Macreuse à large bec*, BUFF. IX., p. 244.—*Pl. Enl.* 995.—EDW. pl. 155.—*LATH. Syn.* III., p. 479.—*Phil. Trans.* LXII., p. 417.*

THIS Duck is peculiar to America, and altogether confined to the shores and bays of the sea, particularly where the waves roll over the sandy beach. Their food consists principally of those small bivalve shell fish already described, spout fish, and others that lie in the sand near its surface. For these they dive almost constantly, both in the sandy bays and amidst the tumbling surf. They seldom or never visit the salt marshes. They continue on our shores during the winter; and leave us early in May for their breeding places in the north. Their skins are remarkably strong, and their flesh coarse, tasting of fish. They are shy birds, not easily approached, and are common in winter along the whole coast from the river St. Lawrence to Florida.

The length of this species is twenty inches, extent thirty-two inches; the bill is yellowish red, elevated at the base, and marked on the side of the upper mandible with a large square patch of black, preceded by another space of a pearl color; the part of the bill thus marked swells or projects considerably from the common surface; the nostrils are large and pervious; the sides of the bill broadly serrated or toothed; both mandibles are furnished with a nail at the extremity; irides white, or very pale cream; whole plumage a shining black, marked on the crown and hind head with two triangular spaces of pure white; the plumage on both these spots is shorter and thinner than the rest; legs and feet blood red; membrane of the webbed feet black, the primary quills are of a deep dusky brown.

On dissection the gullet was found to be gradually enlarged to the gizzard, which was altogether filled with broken shell fish. There was a singular hard expansion at the commencement of the windpipe; and another much larger about three-quarters of an inch above where it separates into the two lobes of the lungs; this last was larger than a Spanish hazel-nut, flat on one side and convex on the other. The

* *Anas perspicillata*, GMEL. *Syst.* I., p. 524, No. 25.—*Ind. Orn.* p. 847, No. 42.
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protuberance on each side of the bill communicated with the nostril, and was hollow. All these were probably intended to contain supplies of air for the bird's support while under water; the last may also protect the head from the sharp edges of the shells.

The female is altogether of a sooty brown, lightest about the neck; the prominences on the bill are scarcely observable and its color dusky.

This species was also found by Captain Cooke at Nootka Sound, on the north-west coast of America.

SPECIES XV. *ANAS FUSCA*.

V E L V E T D U C K .

[Plate LXXII. Fig. 3, Male.]

Le grande Macreuse, BRISS. VI., p. 423, 29.—BUFF. IX., p. 242.—*Pl. Enl.* 956.—*Arct. Zool.* No. 482.—BEWICK, II., p. 286.—LATH. *Syn.* III., p. 482.*

THIS and the following are frequently confounded together as one and the same species by our gunners on the sea coast. The former, however, differs in being of greater size; in having a broad band of white across the wing; a spot of the same under the eye, and in the structure of its bill. The habits of both are very much alike; they visit us only during the winter; feed entirely on shell fish, which they procure by diving; and return to the northern regions early in spring to breed. They often associate with the Scoters, and are taken frequently in the same nets with them. Owing to the rank fishy flavor of its flesh, it is seldom sought after by our sportsmen or gunners, and is very little esteemed.

The Velvet Duck measures twenty-three inches in length, and two feet nine inches in extent, and weighs about three pounds; the bill is broad, a little elevated at the base, where it is black, the rest red, except the lower mandible, which is of a pale yellowish white; both are edged with black, and deeply toothed; irides pale cream; under the eye is a small spot of white; general color of the plumage brownish black, the secondaries excepted, which are white, forming a broad band across the wing; there are a few reflections of purple on the upper plumage; the legs are red on the outside, and deep yellow sprinkled with blackish on the inner sides; tail short and pointed.

* *Anas Fusca*, GMEL. *Syst.* I., p. 507, No. 6.—*Ind. Orn.* p. 848, No. 44.—*Canard double Macreuse*, TEMM. *Man. d'Orn.* p. 858.

The female is very little less than the male; but differs considerably in its markings. The bill is dusky, forehead and cheeks white, under the eye dull brownish; behind that a large oval spot of white; whole upper parts and neck dark brownish drab; tips of the plumage lighter, secondaries white; wing quills deep brown; belly brownish white; tail hoary brown; the throat is white, marked with dusky specks; legs and feet yellow.

Latham informs us that this species is sometimes seen on the coast of England, but is not common there; that it inhabits Denmark and Russia, and in some parts of Siberia is very common. It is also found at Kamtschatka, where it is said to breed, going far inland to lay; the eggs are eight or ten, and white; the males depart, and leave the females to remain with the young until they are able to fly. In the river Ochotska they are so numerous that a party of natives, consisting of fifty or more, go off in boats and drive these ducks up the river before them, and when the tide ebbs fall on them at once, and knock them on the head with clubs, killing such numbers that each man has twenty or thirty for his share.*

SPECIES XVI. *ANAS NIGRA*.

SCOTER DUCK.

[Plate LXXII. Fig. 2.]

Le Macreuse, BRISS. VI., p. 420, pl. 38, fig. 2.—BUFF. IX., p. 234, pl. 16.—*Pl. Enl.* 978.—BEWICK, II., p. 288.—*Arct. Zool.* No. 484.—LATH. *Syn.* III., p. 480.†

THIS Duck is but little known along our seacoast, being more usually met with in the northern than southern districts; and only during the winter. Its food is shell fish, for which it is almost perpetually diving. That small bivalve so often mentioned, small muscles, spout fish, called on the coast *razor handles*, young clams, &c., furnish it with abundant fare; and wherever these are plenty the Scoter is an occasional visitor. They swim, seemingly at ease, amidst the very roughest of the surf; but fly heavily along the surface, and to no great distance. They rarely penetrate far up our rivers, but seem to prefer the neighborhood of the ocean; differing in this respect from the Cormorant, which often makes extensive visits to the interior.

* Hist. Kamtschatka, p. 160.

† *Anas nigra*, GMEL. *Syst.* I., p. 508, No. 7.—*Ind. Orn.* p. 848, No. 43.—*ГЕММ. Ман. d' Orn.* p. 856.

The Scoters are said to appear on the coasts of France in great numbers, to which they are attracted by a certain kind of small bivalve shell fish called *vaimeaux*, probably differing little from those already mentioned. Over the beds of these shell fish the fishermen spread their nets, supporting them, horizontally, at the height of two or three feet from the bottom. At the flowing of the tide the Scoters approach in great numbers, diving after their favorite food, and soon get entangled in the nets. Twenty or thirty dozen have sometimes been taken in a single tide. These are sold to the Roman Catholics, who eat them on those days on which they are forbidden by their religion the use of animal food, fish excepted; these birds, and a few others of the same fishy flavor, having been exempted from the interdict, on the supposition of their being cold blooded, and partaking of the nature of fish.*

The Scoter abounds in Lapland, Norway, Sweden, Russia, and Siberia. It was also found by Osbeck, between the islands of Java and St. Paul, lat. 30 and 34, in the month of June.†

This species is twenty-one inches in length, and thirty-four in extent, and is easily distinguished from all other Ducks by the peculiar form of its bill, which has at the base a large elevated knob, of a red color, divided by a narrow line of yellow, which spreads over the middle of the upper mandible, reaching nearly to its extremity, the edges and lower mandible are black; the eyelid is yellow, iris dark hazel; the whole plumage is black, inclining to purple on the head and neck; legs and feet reddish.

The female has little or nothing of the knob on the bill; her plumage above a sooty brown, and below of a grayish white.

* Bewick.

† Voy. i., p. 120.

SPECIES XVII. *ANAS RUBIDUS*.

RUDDY DUCK.

[Plate LXXI. Fig. 5, Adult Male.]

THIS very rare Duck was shot, some years ago, on the river Delaware, and appears to be an entire new species. The specimen here figured, with the female that accompanies it, and which was killed in the same river, are the only individuals of their kind I have met with. They were both preserved in the superb Museum of my much respected friend, Mr. Peale, of this city.

On comparing this Duck with the description given by Latham of the *Jamaica Shoveller*, I was at first inclined to believe I had found out the species; but a more careful examination of both satisfied me that they cannot be the same, as the present differs considerably in color; and besides has some peculiarities which the eye of that acute ornithologist could not possibly have overlooked, in his examination of the species said to have been received by him from Jamaica. Wherever the general residence of this species may be, in this part of the world, at least, it is extremely rare, since among the many thousands of Ducks brought to our markets during winter, I have never heard of a single individual of the present kind having been found among them.

The Ruddy Duck is fifteen inches and a half in length, and twenty-two inches in extent; the bill is broad at the tip, the under mandible much narrower, and both of a rich light blue; nostrils small, placed in the middle of the bill; cheeks and chin white: front, crown, and back part of the neck down nearly to the back, black; rest of the neck, whole back, scapulars, flanks and tail-coverts deep reddish brown, the color of bright mahogany; wings plain pale drab, darkest at the points; tail black, greatly tapering, containing eighteen narrow pointed feathers; the plumage of the breast and upper part of the neck is of a remarkable kind, being dusky olive at bottom, ending in hard bristly points of a silvery gray, very much resembling the hair of some kinds of seal skins; all these are thickly marked with transverse curving lines of deep brown; belly and vent silver gray, thickly crossed with dusky olive; under tail-coverts white; legs and feet ash-colored.

NOTE.—It is a circumstance in ornithology well worthy of note, that migratory birds frequently change their route, and, consequently, be-

come common in those districts where they had been either unknown, or considered very rare. Of the *Sylvia magnolia*, Wilson declares that he had seen but two individuals, and these in the western country; the *Muscicapa cucullata* he says is seldom observed in Pennsylvania, and the Northern States; the *Muscicapa pusilla*, and the *Muscicapa Canadensis*, he considered rare birds with us; notwithstanding, in the month of May, 1815, all of these were seen in our gardens; and the editor noted the last mentioned as among the most numerous of the passenger birds of that season.

The subject of this chapter affords a case in point. The year subsequent to the death of our author this Duck began to make its appearance in our waters. In October, 1814, the editor procured a female, which had been killed from a flock, consisting of five, at Windmill Island, opposite to Philadelphia. In October, 1818, he shot three individuals, two females and a male; and in April last another male, all of which, except one, were young birds. He has also at various times, since 1814, seen several other male specimens of this species, not one of which was an adult. In effect, the only old males which he has ever seen were one in Peale's Museum, and another in the Cabinet of the Academy of Natural Sciences of Philadelphia.

The Duck figured in the plate as the female was a young male, as the records of the Museum show; the great difference between its colors and markings, and those of the full-plumaged male, having induced the author to conclude it was a female, although he was perfectly familiar with the fact, that the young males of several species of this genus so nearly resemble the other sex, it requires a very accurate eye, aided by much experience, to distinguish them by their external characters. This is precisely the case with the present species; the yearlings, of both sexes, are alike; and it is not until the succeeding spring that those characters appear in the males which enable one to indicate them, independent of dissection.

The opinion of our author that this species is not the Jamaica Shoveller of Latham the editor cannot subscribe to, it appearing to him that the specimen from which Latham took his description was a young male of the Duck now before us. The latter informs us that the species appears in Jamaica in October or November; remains till March; and then retires to the north. This account coincides with ours: we see the bird on its way to the south in October; it reaches Jamaica in November; it departs thence in March, and revisits us, in regular progression, in April. Where its summer residence is we are not informed; and we are equally ignorant whether the species is numerous in any part of our continent or not.

Judging from the descriptions of the Ural Duck of European writers, there should seem to be a great affinity between that and the present.

Through the polite attention of Mr. Charles Bonaparte, the editor was enabled to examine a female specimen of the former; and as he perceived some differences, he will here note them. The bill of the Ural Duck, from the angle of the mouth, is two inches long; that of our Duck is one inch and three-quarters, it is also less gibbous at the base than in the former, and it is less depressed above; the tail feathers of the Ural Duck are guttered their whole length: those of the Ruddy Duck are slightly canaliculated at their tips; the lateral membrane of the inner toe of the latter is not half the breadth of that of the former. In other respects the females of the two species much resemble each other. In order to draw a just parallel, it would be necessary to examine a male specimen of the European bird, which our cabinets do not possess.

The female is fifteen inches in length; bill to the angle of the mouth one inch and three-quarters long, its lower half very broad, of a deep dusky olive, the nail resembling a narrow clasp of iron; nostrils oval, with a curved furrow below them; eyes small and dark; the upper part of the head, from the bill to the hind-head, variegated with shining bronze and blackish brown, the latter crossing the head in lines; cheeks white, mixed with dusky, and some touches of bronze; lores drab and dusky, mixed with a small portion of white; neck short and thick, its lower half above, extending between the shoulders, drab, mixed with dusky; throat, and whole lower parts, dusky ash, the plumage tipped with dull white, having a silver gray appearance; the upper parts are dusky, marked or pencilled with pale ferruginous, and dull white; breast slightly tinged with reddish brown; the wings are small, greatly concave, and, when closed, are short of the extremities of the tail-coverts about three-quarters of an inch—they are dusky, their coverts finely dotted or powdered with white; tail dusky, marked at its extremity with a few very fine dots of reddish white, it extends beyond its upper coverts two inches and a half; under tail-coverts white; legs and feet dusky slate; weight sixteen ounces and a half. The gizzard of the above contained sand and some small seeds. Her eggs were numerous and tolerably large; hence, as she was shot in the month of October, it was conjectured that she was a bird of the preceding year.

The young male, shot in April last, measured fifteen inches in length; its irides were dark brown; bill elevated at the base, slightly gibbous, and blue ash, from the nostrils to the tip mixed with dusky, lower mandible yellowish flesh color, marbled with dusky; crown brown black; throat and cheeks, as far as the upper angle of the bill, white, stained with bright yellow ochre; auriculars almost pure white; the black from the crown surrounded the eyes, and passed round the white of the auriculars; hind-head black, mixed with ferruginous; breast and shoulders bright ferruginous; belly ash and silver white; back and scapulars

liver brown, finely pencilled with gray and reddish white; rump and upper tail-coverts the same ground color, but the markings not so distinct; wings light liver brown, the lesser coverts finely powdered with gray; on the back and scapulars, the flanks, and round the base of the neck, the brownish red or bright mahogany colored plumage, which distinguishes the adult male, was coming out; inner webs of the tail partly dusky, outer webs, for two-thirds of their length, and the tip, dirty ferruginous; legs blue ash in front, behind, the toes and webs, dusky. When the tail is not spread, it is somewhat conical, and its narrow, pointed feathers, are slightly guttered at their tips; when spread, it is wedge-shaped. The trachea is of nearly equal diameter throughout; and has no labyrinth or enlargement at its lower part.

Another young male, shot in October, measured fifteen and a quarter inches in length, and twenty-three inches in breadth; bill greenish black, lower mandible yellowish flesh color, mixed with dusky; from the bill to the hind-head a deep liver brown, the tips of the plumage bronzed; whole upper parts dark umber brown, pencilled with pale ferruginous, buff, and white; from the corner of the mouth a brown marking extended towards the eye; tail dusky, ash colored at its extremity; legs and feet dusky ash, toes paler, having a yellowish tinge, webs dusky, claws sharp.

The shafts of the tail feathers of all these specimens, except that shot in April, projected beyond the webs; in one specimen the shaft of one of the middle feathers projected an inch, and was ramified into rigid bristles, resembling those of the tail of Buffon's *Sarcelle a queue epineuse de Cayenne*, Pl. Enl. 967; in all the specimens there was the appearance of the tail feathers having been furnished with the like process, but which had been rubbed off. Can it be that this Duck makes use of its tail in climbing up the fissures of rocks, or the hollows of trees? Its stiff, narrow feathers, not unlike those of the tail of a Woodpecker, would favor this supposition. It is worthy of note that the tail of Mr. Bonaparte's female specimen, alluded to above, is thus rubbed.

The plumage of the neck and breast, which Wilson says is of a remarkable kind, that is, stiff and bristly at the tips, is common to several Ducks, and therefore is no peculiarity.

The body of this species is broad, flat and compact; its wings short and concave; its legs placed far behind; and its feet uncommonly large; it consequently is an expert diver. It flies with the swiftness, and in the manner, of the Buffel-head; and it swims precisely as Latham reports the Ural Duck to swim, with the tail immersed in the water as far as the rump; but whether it swims thus low with the view of employing its tail as a rudder, as Latham asserts of the Ural, or merely to

conceal itself from observation, as the Scaup Duck is wont to do when wounded, and as all the divers do when pursued, I cannot determine.

This is a solitary bird; and with us we never see more than five or six together, and then always apart from other Ducks. It is uncommonly tame, so much so, that, by means of my skiff, I have never experienced any difficulty in approaching within a few yards of it. Its flesh I do not consider superior to that of the Buffel-head, which, with us, is a Duck not highly esteemed.

I should not be surprised if Buffon's *Sarcelle à queue épineuse de Cayenne* should turn out to be this species. The characters of the two certainly approximate; but as I have not been enabled to settle the question of their identity in my own mind, I shall, for the present, let the affair rest.—*G. Ord.*

ANAS RUBIDUS.

RUDDY DUCK.

[Plate LXXI. Fig. 6, Female.*]

THIS is nearly of the same size as the male; the front, lores, and crown, deep blackish brown; bill as in the male, very broad at the extremity, and largely toothed on the sides, of the same rich blue; cheeks a dull cream; neck plain dull drab, sprinkled about the auriculars with blackish; lower part of the neck and breast variegated with gray, ash, and reddish brown; the reddish dies off towards the belly, leaving this last of a dull white shaded with dusky ash; wings as in the male, tail brown; scapulars dusky brown thickly sprinkled with whitish, giving them a gray appearance; legs ash.

A particular character of this species is its tapering sharp pointed tail, the feathers of which are very narrow; the body is short; the bill very nearly as broad as some of those called Shovellers; the lower mandible much narrower than the upper.

* This is a *young male*, and not a female.

SPECIES XVIII. *ANAS VALISNERIA*.

CANVAS-BACK DUCK.

[Plate LXX. Fig. 5.]

THIS celebrated American species, as far as can be judged from the best figures and descriptions of foreign birds, is altogether unknown in Europe. It approaches nearest to the Pochard of England, *Anas ferina*, but differs from that bird in being superior in size and weight, in the greater magnitude of its bill, and the general whiteness of its plumage. A short comparison of the two will elucidate this point. The Canvas-back measures two feet in length, by three feet in extent, and when in the best order weighs three pounds and upwards. The Pochard, according to Latham and Bewick, measures nineteen inches in length, and thirty in extent, and weighs one pound twelve or thirteen ounces. The latter writer says of the Pochard, "the plumage above and below is wholly covered with prettily freckled slender dusky threads disposed transversely in close set zigzag lines, on a pale ground, more or less shaded off with ash;" a description much more applicable to the bird figured beside it, the *Red Head*, and which very probably is the species meant. In the figure of the Pochard given by Mr. Bewick, who is generally correct, the bill agrees very well with that of our *Red Head*; but is scarcely half the size and thickness of that of the Canvas-back; and the figure in the *Planches Enluminees* corresponds in that respect with Bewick's. In short, either these writers are egregiously erroneous in their figures and descriptions, or the present Duck was altogether unknown to them. Considering the latter supposition the more probable of the two, I have designated this as a new species, and shall proceed to detail some particulars of its history.

The Canvas-back Duck arrives in the United States from the north about the middle of October; a few descend to the Hudson and Delaware, but the great body of these birds resort to the numerous rivers belonging to and in the neighborhood of the Chesapeake Bay, particularly the Susquehanna, the Patapsco, Potomac, and James rivers, which appear to be their general winter rendezvous. Beyond this to the south, I can find no certain accounts of them. At the Susquehanna they are called *Canvas-backs*, on the Potomac *White-backs*, and on James river *Sheldrakes*. They are seldom found at a great distance up any of these rivers, or even in the salt-water bay; but in that

particular part of tide water where a certain grass-like plant grows, on the roots of which they feed. This plant, which is said to be a species of *Valisneria*, grows on fresh-water shoals of from seven to nine feet (but never where these are occasionally dry), in long narrow grass-like blades of four or five feet in length; the root is white, and has some resemblance to small celery. This grass is in many places so thick that a boat can with difficulty be rowed through it, it so impedes the oars. The shores are lined with large quantities of it torn up by the Ducks, and drifted up by the winds, lying like hay in windrows. Wherever this plant grows in abundance the Canvas-backs may be expected, either to pay occasional visits or to make it their regular residence during the winter. It occurs in some parts of the Hudson; in the Delaware near Gloucester, a few miles below Philadelphia; and in most of the rivers that fall into the Chesapeake, to each of which particular places these Ducks resort; while in waters unprovided with this nutritive plant they are altogether unknown.

On the first arrival of these birds in the Susquehanna, near Havre-de-Grace, they are generally lean; but such is the abundance of their favorite food, that towards the beginning of November they are in pretty good order. They are excellent divers, and swim with great speed and agility. They sometimes assemble in such multitudes as to cover several acres of the river, and when they rise suddenly, produce a noise resembling thunder. They float about these shoals, diving and tearing up the grass by the roots, which is the only part they eat. They are extremely shy, and can rarely be approached unless by stratagem. When wounded in the wing they dive to such prodigious distances, and with such rapidity, continuing it so perseveringly, and with such cunning and active vigor, as almost always to render the pursuit hopeless. From the great demand for these Ducks, and the high price they uniformly bring in market, various modes are practised to get within gunshot of them. The most successful way is said to be, decoying them to the shore by means of a dog, while the gunner lies closely concealed in a proper situation. The dog, if properly trained, plays backwards and forwards along the margin of the water, and the Ducks observing his manœuvres, enticed perhaps by curiosity, gradually approach the shore, until they are sometimes within twenty or thirty yards of the spot where the gunner lies concealed, and from which he rakes them, first on the water and then as they rise. This method is called *tolling them in*. If the Ducks seem difficult to decoy, any glaring object, such as a red handkerchief, is fixed round the dog's middle, or to his tail, and this rarely fails to attract them. Sometimes by moonlight the sportsman directs his skiff towards a flock whose position he had previously ascertained, keeping within the projecting shadow of some wood, bank, or headland, and paddles along so silently and imperceptibly as often to

approach within fifteen or twenty yards of a flock of many thousands, among whom he generally makes great slaughter.

Many other stratagems are practised, and indeed every plan that the ingenuity of the experienced sportsman can suggest, to approach within gunshot of these birds; but of all the modes pursued, none intimidate them so much as shooting them by night; and they soon abandon the place where they have been thus repeatedly shot at. During the day they are dispersed about; but towards evening collect in large flocks, and come into the mouths of creeks, where they often ride as at anchor, with their head under their wing, asleep, there being always sentinels awake ready to raise an alarm on the least appearance of danger. Even when feeding and diving in small parties, the whole never go down at one time, but some are still left above on the look out.

When the winter sets in severely, and the river is frozen, the Canvas-backs retreat to its confluence with the bay, occasionally frequenting air holes in the ice, which are sometimes made for the purpose, immediately above their favorite grass, to entice them within gunshot of the hut or bush which is usually fixed at a proper distance, and where the gunner lies concealed, ready to take advantage of their distress. A Mr. Hill, who lives near James river, at a place called Herring Creek, informs me, that one severe winter he and another person broke a hole in the ice about twenty by forty feet, immediately over a shoal of grass, and took their stand on the shore in a hut of brush, each having three guns well loaded with large shot. The Ducks, which were flying up and down the river in great extremity, soon crowded to this place, so that the whole open space was not only covered with them, but vast numbers stood on the ice around it. They had three rounds firing both at once, and picked up eighty-eight Canvas-backs, and might have collected more had they been able to get to the extremity of the ice after the wounded ones. In the severe winter of 1779-80, the grass, on the roots of which these birds feed, was almost wholly destroyed in James river. In the month of January the wind continued to blow from W. N. W. for twenty-one days, which caused such low tides in the river that the grass froze to the ice everywhere, and a thaw coming on suddenly, the whole was raised by the roots and carried off by the fresh. The next winter a few of these Ducks were seen, but they soon went away again; and for many years after, they continued to be scarce; and even to the present day, in the opinion of my informant, have never been so plenty as before.

The *Canvas-back*, in the rich juicy tenderness of its flesh, and its delicacy and flavor, stands unrivalled by the whole of its tribe in this or perhaps any other quarter of the world. Those killed in the waters of the Chesapeake are generally esteemed superior to all others, doubtless from the great abundance of their favorite food which these rivers pro-

duce. At our public dinners, hotels, and particular entertainments, the Canvas-backs are universal favorites. They not only grace but dignify the table, and their very name conveys to the imagination of the eager epicure the most comfortable and exhilarating ideas. Hence on such occasions it has not been uncommon to pay from one to three dollars a pair for these ducks; and, indeed, at such times, if they can they must be had, whatever may be the price.

The Canvas-back will feed readily on grain, especially wheat, and may be decoyed to particular places by baiting them with that grain for several successive days. Some few years since a vessel loaded with wheat was wrecked near the entrance of Great Egg Harbor, in the autumn, and went to pieces. The wheat floated out in vast quantities, and the whole surface of the bay was in a few days covered with Ducks of a kind altogether unknown to the people of that quarter. The gunners of the neighborhood collected in boats, in every direction, shooting them, and so successful were they, that, as Mr. Beasley informs me, two hundred and forty were killed in one day, and sold among the neighbors, at twelve and a half cents apiece, without the feathers. The wounded ones were generally abandoned, as being too difficult to be come up with. They continued about for three weeks, and during the greater part of that time a continual cannonading was heard from every quarter. The gunners called them *Sea Ducks*. They were all *Canvas-backs*, at that time on their way from the north, when this floating feast attracted their attention, and for a while arrested them in their course. A pair of these very Ducks I myself bought in Philadelphia market at the time, from an Egg Harbor gunner, and never met with their superior either in weight or excellence of flesh. When it was known among those people the loss they had sustained in selling for twenty-five cents what would have brought them from a dollar to a dollar and a half per pair, universal surprise and regret were naturally enough excited.

The Canvas-back is two feet long, and three feet in extent, and when in good order weighs three pounds; the bill is large, rising high in the head, three inches in length, and one inch and three-eighths thick at the base, of a glossy black; eye very small, irides dark red; cheeks and fore part of the head blackish brown; rest of the head and greater part of the neck bright glossy reddish chestnut, ending in a broad space of black that covers the upper part of the breast, and spreads round to the back; back, scapulars, and tertials white, faintly marked with an infinite number of transverse waving lines or points as if done with a pencil; whole lower parts of the breast, also the belly, white, slightly pencilled in the same manner, scarcely perceptible on the breast, pretty thick towards the vent; wing coverts gray with numerous specks of blackish; primaries and secondaries pale slate, two or three of the

latter of which nearest the body are finely edged with deep velvety black, the former dusky at the tips; tail very short, pointed, consisting of fourteen feathers of a hoary brown; vent and tail coverts black; lining of the wing white; legs and feet very pale ash, the latter three inches in width, a circumstance which partly accounts for its great powers of swimming.

The female is somewhat less than the male, and weighs two pounds and three-quarters; the crown is blackish brown, cheeks and throat of a pale drab; neck dull brown; breast as far as the black extends on the male, dull brown skirted in places with pale drab; back dusky white crossed with fine waving lines; belly of the same dull white, pencilled like the back; wings, feet, and bill, as in the male; tail coverts dusky, vent white waved with brown.

The windpipe of the male has a large flattish concave labyrinth, the ridge of which is covered with a thin transparent membrane; where the trachea enters this it is very narrow, but immediately above swells to three times that diameter. The intestines are wide, and measure five feet in length.

NOTE.—It is a circumstance calculated to excite our surprise, that the Canvas-back, one of the commonest species of our country, a Duck which frequents the waters of the Chesapeake in flocks of countless thousands, should yet have been either overlooked by the naturalists of Europe, or confounded with the Pochard, a species whose characters are so obviously different. But that this is the fact I feel well assured, since I have carefully examined every author of repute, to which I have had access, and have not been enabled to find any description which will correspond to the subject before us. The species, then, we hope, will stand as Wilson's own; and it is no small addition to the fame of the American Ornithology that it contains the first scientific account of the finest Duck that any country can boast of.

The Canvas-back frequents the Delaware in considerable numbers. The *Valisneria* grows pretty abundantly, in various places, from Burlington, New Jersey, to Eagle Point, a few miles below Philadelphia. Wherever this plant is found there will the Ducks be; and they will frequently venture within reach of their enemies' weapons rather than abstain from the gratification of their appetite for this delicious food. The shooters in the neighborhood of Philadelphia for many years were in the habit of supplying our markets with this species, which always bore the name of Red-heads or Red-necks; and their ignorance of its being the true Canvas-back was cunningly fostered by our neighbors of the Chesapeake, who boldly asserted that only their waters were favored with this species, and that all other Ducks, which seemed to claim affinity, were a spurious race, unworthy of consanguinity. Hence at

the same time when a pair of legitimate Canvas-backs, proudly exhibited from the mail-coach, from Havre-de-Grace, readily sold for two dollars and fifty cents, a pair of the identical species, as fat, as heavy, as delicious, but which had been unfortunately killed in the Delaware, brought only one dollar, and the lucky shooter thought himself sufficiently rewarded in obtaining twenty-five per cent. more for his *Red-necks* than he could obtain for a pair of the finest Mallards that our waters could afford. But the delusion is now passed; every shooter and huckster knows the distinctive characters of the Canvas-back and the Red-head; and prejudice no longer controverts the opinion that this species is a common inhabitant of the Delaware; and epicures are compelled to confess that they can discern no difference between our Canvas-back, when in season, and that from Spesutie, or Carroll's Island, the notorious shooting ground of the *bon-vivants* of Baltimore.

The last-mentioned place, though commonly termed an island, is properly a peninsula, situated on the western side of the Chesapeake Bay, a few miles from Baltimore. It is a spot highly favorable for the shooting of water fowl. It extends for a considerable distance into the bay; and, being connected to the main land by a narrow neck, the shooters are enabled to post themselves advantageously on the isthmus, and intercept the fowl, who, in roving from one feeding ground to another, commonly prefer crossing the land to taking a long flight around the peninsula. In calm weather the shooters have not much luck, the Ducks keeping out in the coves, and, when they do move, flying high; but should a fresh breeze prevail, especially one from the eastward, rare sport may be anticipated; and it is no unusual circumstance for a party of four or five gentleman, returning home, after a couple of days' excursion, with fifty or sixty Canvas-backs, besides some other Ducks of inferior note. The greatest flight of Ducks commonly takes place between daybreak and sunrise, and while it lasts the roaring of the fowling pieces, the bustle of the sportsmen, the fluttering of the fowl, and the plunging of the dogs, constitute a scene productive of intense interest. The dog in most esteem for this amusement is a large breed, partaking of the qualities of the Newfoundland variety. They trust altogether to their sight, and it is astonishing what sagacity they will manifest in watching a flock of Ducks that had been shot at, and marking the birds that drop into the water, even at a considerable distance off. When at fault, the motion of their master's hand is readily obeyed by them; and when unable to perceive the object of their search, they will raise themselves in the water for this purpose, and will not abandon the pursuit while a chance remains of succeeding. A generous, well-trained dog, has been known to follow a Duck for more than half a mile; and, after having been long beyond the reach of seeing or hearing his master, to return, puffing and snorting under

his load, which seemed sufficient to drag him beneath the waves. The editor having been an eye-witness of similar feats of these noble animals, can therefore speak with confidence as to the fact.

On the Delaware but few of this species, comparatively, are obtained, for the want of proper situations whence they may be shot on the wing. To attempt to approach them, in open day, with a boat, is unproductive labor, except there be floating ice in the river, at which time, if the shooter clothe himself in white, and paint his skiff of the same color, he may so deceive the Ducks as to get within a few feet of them. At such times it is reasonable to suppose that these valuable birds get no quarter. But there is one caution to be observed, which experienced sportsmen never omit: it is to go always *with* the current; a Duck being sagacious enough to know that a lump of ice seldom advances *against* the stream. They are often shot, with us, by moonlight, in the mode related in the foregoing account; the first pair the editor ever killed was in this manner; he was then a boy, and was not a little gratified with his uncommon acquisition.

As the *Valisneria* will grow in all our fresh-water rivers, in coves, or places not affected by the current, it would be worth the experiment to transplant this vegetable in those waters where it at present is unknown. There is little doubt the Canvas-backs would, by this means, be attracted; and thus would afford the lovers of good eating an opportunity of tasting a delicacy, which, in the opinion of many, is unrivalled by the whole feathered race.

In the spring, when the Duck-grass becomes scarce, the Canvas-backs are compelled to subsist upon other food, particularly shell-fish; their flesh then loses its delicacy of flavor, and although still fat, it is not esteemed by epicures; hence the Ducks are not much sought after; and are permitted quietly to feed until their departure for the north.

Our author states that he had had no certain accounts of this species to the southward of James river, Virginia. In the month of January, 1818, I saw many hundreds of these Ducks feeding in the Savannah river, not far from Tybee light-house. They were known by the name of Canvas-backs; but the inhabitants of that quarter considered them as fishing Ducks, not fit to be eaten: so said the pilot of the ship which bore me to Savannah. But a pair of these birds having been served up at table, after my arrival, I was convinced, by their delicate flavor, that they had lost little by their change of residence, but still maintained their superiority over all the water fowl of that region. In the river St. John, in East Florida, I also saw a few scattered individuals of this species; but they were too shy to be approached within gunshot.

The Canvas-backs swim very low, especially when fat; and when pursued by a boat, they stretch themselves out in lines, in the manner of the Scaup Ducks, so that some of the flock are always enabled to

reconnoitre the paddler, and give information, to the rest, of his motions. When the look-out Ducks apprehend danger, the stretching up of their necks is the signal, and immediately the whole squadron, facing to the wind, rise with a noise which may be heard at the distance of half a mile.

The guns employed in Canvas-back shooting should be of a medium length and calibre; and of the most approved patent breech. My experience has taught me that a barrel of three feet seven inches, with a bore short of seven-eighths of an inch, is quite as effective as one of greater dimensions; and is certainly more convenient. It may appear a work of supererogation to speak of the quality of powder to be used in this kind of sporting; and yet so often are shooters deceived in this article, either through penuriousness or negligence, that a word of advice may not be unprofitable. One should obtain the best powder, without regard to price; it being an indisputable maxim in shooting, but which is too often forgotten, that the best is always the cheapest.

SPECIES XIX. *ANAS FERINA*?*

RED-HEADED DUCK.

[Plate LXX. Fig. 6, Male.]

THIS is a common associate of the Canvas-back, frequenting the same places, and feeding on the *stems* of the same grass, the latter eating only the *roots*; its flesh is very little inferior, and it is often sold in our markets for the Canvas-back, to those unacquainted with the characteristic marks of each. Anxious as I am to determine precisely whether this species be the Red-headed Wigeon, Pochard, or Dun† bird of England, I have not been able to ascertain the point to my own satisfaction; though I think it very probably the same, the size, extent, and general description of the Pochard agreeing pretty nearly with this.

The Red-head is twenty inches in length, and two feet six inches in extent; bill dark slate, sometimes black, two inches long, and seven-

* *Anas Ferina*, GMEL. I., p. 530, No. 31.—*Anas rufa*, Id. p. 515.—*Ind. Orn.* p. 862, No. 77; p. 863, No. 78.—*Rufous-necked Duck*, *Gen. Syn.* III., p. 477, No. 32.—*Pochard*, Id. p. 523, No. 68.—*Red-headed Duck*, LAWSON'S *Carolina*, p. 150.—BEWICK, II., p. 320.—*Arct. Zool.* No. 491. *Br. Zool.* No. 284.—*Le Millouin*, BRISS. VI., p. 384, No. 19, pl. 35, fig. 1; *Le Millouin nois*, Id. p. 389, *A young male?*; *Le Millouin du Mexique*, Id. p. 390, No. 20, female, BUFF. IX., p. 216. *Pl. Enl.* 803 TEMM. *Man. d'Orn.* p. 669.—WILLOUGHBY, p. 367, § XI.—MONTAGU, *Orn. Dict.*

† Local names given to one and the same Duck. It is also called the *Poker*.

eighths of an inch thick at the base, furnished with a large broad nail at the extremity; irides flame-colored; plumage of the head long, velvety, and inflated, running high above the base of the bill; head, and about two inches of the neck deep glossy reddish chestnut; rest of the neck and upper part of the breast black, spreading round to the back; belly white, becoming dusky towards the vent by closely marked undulating lines of black; back and scapulars bluish white, rendered gray by numerous transverse waving lines of black; lesser wing coverts brownish ash; wing quills very pale slate, dusky at the tips; lower part of the back and sides under the wings brownish black, crossed with regular zigzag lines of whitish; vent, rump, tail, and tail coverts black; legs and feet dark ash.

The female has the upper part of the head dusky brown, rest of the head and part of the neck a light sooty brown; upper part of the breast ashy brown, broadly skirted with whitish; back dark ash, with little or no appearance of white pencilling; wings, bill, and feet nearly alike in both sexes.

This Duck is sometimes met with in the rivers of North and South Carolina, and also in those of Jersey and New York; but always in fresh water, and usually at no great distance from the sea. Is most numerous in the waters of the Chesapeake; and with the connoisseurs in good eating, ranks next in excellence to the Canvas-back. Its usual weight is about a pound and three-quarters, avoirdupois.

The Red-head leaves the bay and its tributary streams in March, and is not seen until late in October.

The male of this species has a large flat bony labyrinth on the bottom of the windpipe, very much like that of the Canvas-back, but smaller; over one of its concave sides is spread an exceeding thin transparent skin, or membrane. The intestines are of great width, and measure six feet in length.

SPECIES XX. *ANAS MARILA*.

SCAUP DUCK.

[Plate LXIX. Fig. 3.]

Le petit Morillon rayé, BRISS. VI., p. 416, 26. A.—*Arct. Zool.* No. 498.—LATH. *Syn.* III., p. 500.

THIS Duck is better known among us by the name of the *Blue-bill*. It is an excellent diver; and according to Willoughby feeds on a certain small kind of shell fish called *scaup*, whence it has derived its name. It is common both to our fresh-water rivers and seashores in winter. Those that frequent the latter are generally much the fattest, on account of the greater abundance of food along the coast. It is sometimes abundant in the Delaware, particularly in those places where small snails, its favorite shell fish, abound; feeding also, like most of its tribe, by moonlight. They generally leave us in April, though I have met with individuals of this species so late as the middle of May, among the salt marshes of New Jersey. Their flesh is not of the most delicate kind, yet some persons esteem it. That of the young birds is generally the tenderest and most palatable.

The length of the *Blue-bill* is nineteen inches, extent twenty-nine inches; bill broad, generally of a light blue, sometimes of a dusky lead color; irides reddish; head tumid, covered with plumage of a dark glossy green; extending half way down the neck; rest of the neck and breast black, spreading round to the back; back and scapulars white, thickly crossed with waving lines of black; lesser coverts dusky, powdered with veins of whitish, primaries and tertials brownish black; secondaries white, tipped with black, forming the speculum; rump and tail-coverts black; tail short, rounded, and of a dusky brown; belly white, crossed near the vent with waving lines of ash; vent black; legs and feet dark slate.

Such is the color of the bird in its perfect state. Young birds vary considerably, some having the head black mixed with gray and purple, others the back dusky with little or no white, and that irregularly dispersed.

The female has the front and sides of the same white, head and half of the neck blackish brown; breast, spreading round to the back, a dark sooty brown, broadly skirted with whitish; back black, thinly sprinkled with grains of white, vent whitish; wings the same as in the male.

The windpipe of the male of this species is of large diameter; the labyrinth similar to some others, though not of the largest kind; it has something of the shape of a single cockle shell; its open side or circular rim, covered with a thin transparent skin. Just before the windpipe enters this, it lessens its diameter at least two-thirds, and assumes a flattish form.

The Scaup Duck is well known in England. It inhabits Iceland and the more northern parts of the continent of Europe, Lapland, Sweden, Norway, and Russia. It is also common on the northern shores of Siberia. Is very frequent on the river Ob. Breeds in the north, and migrates southward in winter. It inhabits America as high as Hudson's Bay, and retires from this last place in October.*

NOTE.—Pennant and Latham state that the male weighs a pound and a half; and the female two ounces more. This is undoubtedly an error, the female being less than the male, and the latter being generally the fattest. Montagu says that the species weighs sometimes as much as thirty-five ounces, which statement comes nearer the truth than that of the foregoing. On the eighth of April, of the present year (1824), I shot, on the Delaware, an adult male which weighed two pounds and three-quarters. I have frequently shot them of two pounds and a half; and on the Chesapeake, and on the coast, they are still heavier.

In the Delaware there are several favorite feeding grounds of the Blue-bill along the Jersey shore, from Burlington to Mantua creek; but the most noted spot appears to be the cove which extends from Timber creek to Eagle Point, and known by the name of Ladd's Cove. Thither the Blue-bills repair in the autumn, and never quit it until they depart in the spring for the purpose of breeding, except when driven away, in the winter, by the ice. It is no uncommon circumstance to see many hundreds of these birds at once constantly diving for food; but so shy are they, that even with the aid of a very small and well-constructed skiff, cautiously paddled, it is difficult to approach them within gunshot. So very sagacious are they, that they appear to know the precise distance wherein they are safe; and, after the shooter has advanced within this point, they then begin to spread their lines in such a manner that, in a flock of a hundred, not more than three or four can be selected in a group at any one view. They swim low in the water; are strong feathered; and are not easily killed. When slightly wounded, and unable to fly, it is almost hopeless to follow them, in consequence of their skill great in diving. Their wings being short they either cannot rise with the wind, when it blows freshly, or they are unwilling to do so, for

* Latham.

they are invariably seen to rise against the wind. In a calm they get up with considerable fluttering.

The Blue-bills when disturbed by the fishermen along the Jersey shore, in the spring, resort to other feeding places; and they are frequently observed a short distance below the Philadelphia Navy-yard, particularly at the time when their favorite snail-shells begin to crawl up the muddy shore for the purpose of breeding. Though often seen feeding in places where they can reach the bottom with their bills, yet they seldom venture on the shore, the labor of walking appearing repugnant to their inclinations. When wounded they will never take to the land if they can possibly avoid it; and when compelled to walk they waddle along in the awkward manner of those birds whose legs, placed far behind, do not admit of a free and graceful progression.

SPECIES XXI. *ANAS FULIGULA*.*

TUFTED DUCK.

[Plate LXVII. Fig. 5.]

Arct. Zool. p. 573.—*Le petit Morillon*, BRISS. VI., 411, 26, pl. 37, 1.—BUFF. IX., p. 227, 231, pl. 15.—LATH. *Syn.* III., p. 540.

THIS is an inhabitant of both continents; it frequents fresh-water rivers, and seldom visits the seashore. It is a plump, short-bodied Duck; its flesh generally tender, and well tasted. They are much rarer than most of our other species, and are seldom seen in market. They are most common about the beginning of winter, and early in the spring. Being birds of passage they leave us entirely during the summer.

The Tufted Duck is seventeen inches long, and two feet two inches in extent; the bill is broad and of a dusky color, sometimes marked round the nostrils and sides with light blue; head crested, or *tufted*, as its name expresses, and of a black color, with reflections of purple; neck marked near its middle by a band of deep chestnut; lower part of the neck black, which spreads quite round to the back; back and scapulars black, minutely powdered with particles of white, not to be observed but on a near inspection; rump and vent also black; wings ashy brown; secondaries pale ash or bluish white; tertials black, reflecting green; lower part of the breast and whole belly white; flanks crossed with fine

* *Anas rufitorques*, BONAPARTE, *Journal of the Academy of Natural Sciences of Philadelphia*, III., p. 385; pl. 13, fig. 6, the trachea.

zigzag lines of dusky; tail short, rounded, and of a dull brownish black; legs and feet greenish ash, webs black, irides rich orange; stomach filled with gravel and some vegetable food.

In young birds the head and upper part of the neck are purplish brown; in some the chestnut ring on the fore part of the middle of the neck is obscure, in others very rich and glossy, and in one or two specimens which I have seen it is altogether wanting. The back is in some instances destitute of the fine powdered particles of white; while in others these markings are large and thickly interspersed.

The specimen from which the drawing was taken, was shot on the Delaware on the 10th of March, and presented to me by Dr. S. B. Smith of this city. On dissection it proved to be a male, and was exceedingly fat and tender. Almost every specimen I have since met with has been in nearly the same state; so that I cannot avoid thinking this species equal to most others for the table, and greatly superior to many.

NOTE.—It is remarkable that our author should not have observed the difference between this species and the *fuligula* of Europe; and still more worthy of note that Mr. Temminck, whose powers of discrimination are unusually acute, should also have been misled by the opinions of others, and concluded, with Wilson, that the Tufted Duck figured in our plate was of the same species as the Tufted Duck of Europe. The only apology which we can make for our author is, that he had never had an opportunity of examining a specimen of the *fuligula*; otherwise the specific differences of the two would have been obvious at the first glance. The bill of the *fuligula* has not those white bands or markings which are so conspicuous in our bird, its neck is also destitute of the chestnut collar; the speculum of the former is pure white, that of the latter is pale ash; and, what is a still more striking characteristic, its head is merely tufted, while the *fuligula*'s is ornamented with a pendent crest, of two inches in length.

The credit of having been the first to publicly announce our bird as a new species belongs to Mr. Charles Bonaparte, who, in the publication quoted at the head of this article, has given a comparative description of the two birds, and named the subject of this article *rufitorques*.

The American Tufted Duck is said to be common on the Ohio, and the Mississippi; Messieurs Say and Peale procured it on the Missouri; Lewis and Clark shot it on the Columbia;* and myself in East Florida. It is, properly speaking, a fresh-water Duck, although it is sometimes found on the coast. On the Delaware we observe it in the spring and autumn; and, if the weather be moderate, we see it occasionally

* Hist. of the Exped. vol. II., p. 195, 8vo.

throughout the winter. With us it is not a numerous species; and is rather a solitary bird, seldom more than four or five being found together. It is more common in the month of March than any other time. It is a plump, short-bodied Duck; its flesh tender, and well tasted; but in no respect to be compared to that of the Canvas-back; it is even inferior to the Mallard.

The American Tufted Duck is seventeen inches long, and twenty-seven inches in breadth; the bill is broad, of a dull bluish ash color, the base of the upper mandible marked with a stripe of pure white, which extends along its edges, and then forms a wider band across near the tip, which is of a deep black—this white band changes after death to gray or bluish white; irides rich orange; a spot of white on the chin; head tufted, and, with the upper part of the neck, black, with reflections of rich purple, predominating on the back part of the neck; about the middle of the neck there is an interrupted band of a rich deep glossy chestnut; throat, lower part of the neck, breast, back, scapulars, rump, and tail-coverts, of a silky brownish black; primaries and wing-coverts brown; tertials dark brown, with strong reflections of green; secondaries pale ash, or bluish white, forming the speculum, some tipped with brown and others with white; back and scapulars powdered with particles of dull white, not to be observed but on a near inspection, and presenting the appearance of dust; lower part of the breast, and whole belly, white, with a yellowish tinge; vent dusky; sides under the wings, and flanks, beautifully marked with fine zigzag lines of dusky; tail dull brown, cuneiform, and composed of fourteen feathers; the primaries, wing-coverts, back and scapulars, are glossed with green; webs of the feet black. The color of the legs and feet varies: those of the figure in the plate were greenish ash; those of the specimen above described were pale yellow ochre, dashed with black; and those of Mr. Bonaparte's specimen were bluish ash. The above description was taken from a fine adult male, shot by myself on the 1st of April, 1814.

On the 8th of March, 1815, I shot from a flock, consisting of five individuals, two males; and an adult female in full plumage.

Female: Length sixteen inches and a half; bill darker than that of the male, without the white at its base, above the nail with a band of dull bluish white; beneath the eyes a spot of white; chin and front part of the lores white; throat spotted with dusky; cheeks and auriculars finely powdered with white; neck without the chestnut band; head, neck, breast, upper parts of the back, lower parts of the belly, and vent, a snuff-colored brown; belly whitish; lower part of the back dusky; the under tail-coverts pencilled with fine zigzag lines; neck rather thicker than that of the male, but the head equally tufted; the wings, feet, legs, tail and eyes, resemble those parts of the male. The dust-

like particles, which are so remarkable upon the back and scapulars of the male, are wanting in the female.

In young males the head and upper part of the neck are purplish brown, in some the chestnut band of the neck is obscure.

The stomachs of those specimens which I dissected were filled with gravel and vegetable food. The trachea, according to the observations of Mr. Bonaparte, resembles that of the *fuligula*.

This species is in no respect so shy and cunning as the Scaup Duck, and is more easily shot.—*G. Ord.*

SPECIES XXII. *ANAS CLANGULA*.

GOLDEN EYE.

[Plate LXVII. Fig. 6.]

Le Garrot, BRISS. VI., p. 416, 27, pl. 37, fig. 2.—BUFF. IX., p. 222.—*Arct. Zool.* No. 486.—LATH. *Syn.* III., p. 535.*

THIS Duck is well known in Europe, and in various regions of the United States, both along the seacoast and about the lakes and rivers of the interior. It associates in small parties, and may easily be known by the vigorous whistling of its wings, as it passes through the air. It swims and dives well; but seldom walks on shore, and then in a waddling awkward manner. Feeding chiefly on shell fish, small fry, &c., their flesh is less esteemed than that of the preceding. In the United States they are only winter visitors, leaving us again in the month of April, being then on their passage to the north to breed. They are said to build, like the Wood Duck, in hollow trees.

The Golden-eye is nineteen inches long, and twenty-nine in extent, and weighs on an average about two pounds; the bill is black, short, rising considerably up in the forehead; the plumage of the head and part of the neck is somewhat tumid, and of a dark green with violet reflections, marked near the corner of the mouth with an oval spot of white; the irides are golden yellow; rest of the neck, breast, and whole lower parts white, except the flanks, which are dusky; back and wings black; over the latter a broad bed of white extends from the middle of the lesser coverts to the extremity of the secondaries; the exterior scapulars are also white; tail hoary brown; rump and tail-coverts black; legs

* *Le Garrot*, *Pl. Enl.* 802.—*Morrillon*, *Arct. Zool.* II., p. 300, *F.*—*Br. Zool.* No. 276, 277.—LATH. *Supp.* II., p. 535, No. 26.—*Ind. Orn.* p. 867, No. 87; *A. glancion*, *Id.* p. 868, No. 88.—GMEL. *Syst.* I., p. 523, No. 23; *Id.* p. 525, No. 26.—TEMN. *Man. d' Orn.* I., p. 870.—BEWICK, II., p. 330.

and toes reddish orange; webs very large, and of a dark purplish brown; hind toe and exterior edge of the inner one broadly finned; sides of the bill obliquely dentated; tongue covered above with a fine thick velvety down of a whitish color.

The full plumaged female is seventeen inches in length, and twenty-seven inches in extent; bill brown, orange near the tip; head and part of the neck brown, or very dark drab, bounded below by a ring of white; below that the neck is ash, tipped with white; rest of the lower parts white; wings dusky, six of the secondaries and their greater coverts pure white, except the tips of the last, which are touched with dusky spots; rest of the wing-coverts cinereous, mixed with whitish; back and scapulars dusky, tipped with brown; feet dull orange; across the vent a band of cinereous; tongue covered with the same velvety down as the male.

The young birds of the first season very much resemble the females; but may generally be distinguished by the white spot, or at least its rudiments, which marks the corner of the mouth. Yet, in some cases, even this is variable, both old and young male birds occasionally wanting the spot.

From an examination of many individuals of this species of both sexes, I have very little doubt that the Morillon of English writers (*Anas glaucion*) is nothing more than the young male of the Golden-eye.

The conformation of the trachea, or windpipe of the male of this species, is singular. Nearly about its middle it swells out to at least five times its common diameter, the concentric hoops or rings, of which this part is formed, falling obliquely into one another when the windpipe is relaxed; but when stretched, this part swells out to its full size, the rings being then drawn apart; this expansion extends for about three inches; three more below this it again forms itself into a hard cartilaginous shell, of an irregular figure, and nearly as large as a walnut; from the bottom of this labyrinth, as it has been called, the trachea branches off to the two lobes of the lungs; that branch which goes to the left lobe being three times the diameter of the right. The female has nothing of all this. The intestines measure five feet in length, and are large and thick.

I have examined many individuals of this species, of both sexes and in various stages of color, and can therefore affirm, with certainty, that the foregoing descriptions are correct. Europeans have differed greatly in their accounts of this bird, from finding males in the same garb as the females; and other full plumaged males destitute of the spot of white on the cheek; but all these individuals bear such evident marks of belonging to one peculiar species, that no judicious naturalist, with all these varieties before him, can long hesitate to pronounce them the same.

SPECIES XXIII. *ANAS ALBEOLA*.

BUFFEL-HEADED DUCK.

[Plate LXVII. Fig. 2, Male; Fig. 3, Female.]

La Sarcelle de la Louisiane, BRISS. VI., p. 461, pl. 41, fig. 1.—*Le petit Canard à grosse tête*, BUFF. IX., p. 249.—EDW. pl. 100.—*Arct. Zool.* No. 487.—CATESBY, I., 95.—LATH. *Syn.* III., p. 533.*

THIS pretty little species, usually known by the name of the *Butter-box*, or *Butter-ball*, is common to the seashores, rivers and lakes of the United States, in every quarter of the country, during autumn and winter. About the middle of April, or early in May, they retire to the north to breed. They are dexterous divers, and fly with extraordinary velocity. So early as the latter part of February the males are observed to have violent disputes for the females; at this time they are more commonly seen in flocks; but during the preceding part of winter they usually fly in pairs. Their note is a short *quack*. They feed much on shell fish, shrimps, &c. They are sometimes exceedingly fat; though their flesh is inferior to many others for the table. The male exceeds the female in size, and greatly in beauty of plumage.

The *Buffel-headed Duck*, or rather as it has originally been, the *Buffaloe-headed Duck*, from the disproportionate size of its head, is fourteen inches long, and twenty-three inches in extent; the bill is short, and of a light blue or leaden color; the plumage of the head and half of the neck is thick, long and velvety, projecting greatly over the lower part of the neck; this plumage on the forehead and nape is rich glossy green, changing into a shining purple on the crown and sides of the neck; from the eyes backward passes a broad band of pure white; iris of the eye dark; back, wings and part of the scapulars black; rest of the scapulars, lateral band along the wing, and whole breast, snowy white; belly, vent, and tail-coverts, dusky white; tail pointed, and of a hoary color.

The female is considerably less than the male, and entirely destitute of the tumid plumage of the head; the head, neck, and upper parts of the body, and wings, are sooty black, darkest on the crown; side of the head marked with a small oblong spot of white; bill dusky; lower part of the neck ash, tipped with white; belly dull white; vent cinereous;

* *Le Canard d'hiver*, BRISS. VI., p. 349; *La Sarcelle de la Caroline*, Id. p. 464.

outer edges of six of the secondaries and their incumbent coverts white, except the tips of the latter, which are black; legs and feet a livid blue; tail hoary brown; length of the intestines three feet six inches; stomach filled with small shell fish. This is the Spirit Duck of Pen-
nant, so called from its dexterity in diving (Arct. Zool. No. 487), likewise the Little Brown Duck of Catesby (Nat. Hist. Car. pl. 98).

This species is said to come into Hudson's Bay about Severn river in June, and make their nests in trees in the woods near ponds.* The young males during the first year are almost exactly like the females in color.

SPECIES XXIV. *ANAS GLACIALIS*.

LONG-TAILED DUCK.

[Plate LXX. Fig. 1, Male.]

Le Canard à longue queue de Terre Neuve, BRISS. VI., p. 382, 18.—BUFF. IX., p. 202.
Pl. Enl. 1008.—EDW. pl. 280.—*Arct. Zool.* No. 501.—LATH. *Syn.* III., p. 523.†

THIS Duck is very generally known along the shores of the Chesapeake Bay by the name of *South Southerly*, from the singularity of its cry, something imitative of the sound of those words, and also, that when very clamorous they are supposed to betoken a southerly wind; on the coast of New Jersey they are usually called *Old Wives*. They are chiefly salt-water Ducks, and seldom ramble far from the sea. They inhabit our bays and coasts during the winter only; are rarely found in the marshes, but keep in the channel, diving for small shell fish, which are their principal food. In passing to and from the bays, sometimes in vast flocks, particularly towards evening, their loud and confused noise may be heard in calm weather at the distance of several miles. They fly very swiftly, take short excursions, and are lively restless birds. Their native regions are in the north, where great numbers of them remain during the whole year; part only of the vast family

* Latham.

† *Anas Glacialis*, GMEL. *Syst.* I., p. 529, No. 30; *A. hyemalis*, Id. No. 29; *Mergus furcifer*, Id. 548, No. 7.—*Ind. Orn.* p. 864, No. 82, et var.; *Mergus furcifer*, Id. p. 832, No. 8; *Gen. Syn.* p. 528, No. 73; Id. p. 529, young male called the female; Id. p. 531, var. A.; *Forked Merganser*, Id. sup. II., p. 339, No. 5.—*Le Canard à longue queue d'Islande*, BRISS. VI., p. 379. *La Sarcelle de Ferroë*, Id. p. 466, pl. 40, fig. 2.—BUFF. IX., p. 278. *Pl.* 1008, old male; 999, yearling.—EDWARDS, pl. 280, old male, pl. 156, young male.—*Br. Zool.* No. 283.—BEWICK, II., p. 327.—*Canard de Millon*, TEMM. *Man. d'Orn.*, p. 860.

migrating south to avoid the severest rigors of that climate. They are common to the whole northern hemisphere. In the Orkneys they are met with in considerable flocks, from October to April; frequent in Sweden, Lapland, and Russia; are often found about St. Petersburg, and also in Kamtschatka. Are said to breed at Hudson's Bay, making their nest among the grass near the sea, like the Eider Duck, and about the middle of June, lay from ten to fourteen bluish white eggs, the size of those of a pullet. When the young are hatched the mother carries them to the water in her bill. The nest is lined with the down of her breast, which is accounted equally valuable with that of the Eider Duck, were it to be had in the same quantity.* They are hardy birds, and excellent divers. Are not very common in England, coming there only in very severe winters; and then but in small straggling parties; yet are found on the coast of America as far south at least as Charleston in Carolina, during the winter. Their flesh is held in no great estimation, having a fishy taste. The down and plumage, particularly on the breast and lower parts of the body, are very abundant, and appear to be of the best quality.

The length of this species is twenty-two inches, extent thirty inches; bill black, crossed near the extremity by a band of orange; tongue downy; iris dark red; cheeks and frontlet dull dusky drab, passing over the eye, and joining a large patch of black on the side of the neck, which ends in dark brown; throat and rest of the neck white; crown tufted, and of a pale cream color; lower part of the neck, breast, back, and wings black; scapulars and tertials pale bluish white, long and pointed, and falling gracefully over the wings; the white of the lower part of the neck spreads over the back an inch or two, the white of the belly spreads over the sides, and nearly meets at the rump; secondaries chestnut, forming a bar across the wing; primaries, rump, and tail-coverts black; the tail consists of fourteen feathers, all remarkably pointed, the two middle ones nearly four inches longer than the others; these, with the two adjoining ones, are black, the rest white; legs and feet dusky slate.

On dissection, the intestines were found to measure five feet six inches. The windpipe was very curiously formed; besides the labyrinth, which is nearly as large as the end of the thumb, it has an expansion immediately above that, of double its usual diameter, which continues for an inch and a half; this is flattened on the side next the breast, with an oblong window-like vacancy in it, crossed with five narrow bars, and covered with a thin transparent skin, like the panes of a window; another thin skin of the same kind is spread over the external side of the labyrinth, which is partly of a circular form. This

* Latham.

singular conformation is, as usual, peculiar to the male, the female having the windpipe of nearly an uniform thickness throughout. She differs also so much in the colors and markings of her plumage as to render a figure of her in the same plate necessary; for a description of which see the following article.

LONG-TAILED DUCK.

[Plate LXX. Fig. 2, Female.]

Anas hyemalis, LINN. *Syst.* 202, 29.—LATH. *Syn.* III. p. 529.*

THE female is distinguished from the male by wanting the lengthened tertials, and the two long pointed feathers of the tail, and also by her size, and the rest of her plumage, which is as follows: length sixteen inches, extent twenty-eight inches; bill dusky; middle of the crown and spot on the side of the neck blackish; a narrow dusky line runs along the throat for two inches; rest of the head and upper half of the neck white; lower half pale vinaceous bay blended with white; all the rest of the lower parts of the body pure white; back, scapulars, and lesser wing-coverts bright ferruginous, centered with black, and interspersed with whitish; shoulders of the wing, and quills black; lower part of the back the same, tinged with brown; tail pale brown ash, inner vanes of all but the two middle feathers white; legs and feet dusky slate. The legs are placed far behind, which circumstance points out the species to be great divers. In some females the upper parts are less ferruginous.

Some writers suppose the singular voice, or call, of this species, to be occasioned by the remarkable construction of its windpipe; but the fact, that the females are uniformly the most noisy, and yet are entirely destitute of the singularities of this conformation, overthrows the probability of this supposition.

* This is a young male and not a female.

SPECIES XXV. *ANAS LABRADORA*.

PIED DUCK.

[Plate LXIX. Fig. 6.]

Arct. Zool. No. 488.—*LATH. Syn.* III., p. 497.*

THIS is rather a scarce species on our coasts, and is never met with on fresh-water lakes or rivers. It is called by some gunners the Sand Shoal Duck, from its habit of frequenting sand bars. Its principal food appears to be shell fish, which it procures by diving. The flesh is dry, and partakes considerably of the nature of its food. It is only seen here during winter; most commonly early in the month of March a few are observed in our market. Of their particular manners, place, or mode of breeding nothing more is known. Latham observes that a pair in the possession of Sir Joseph Banks were brought from Labrador. Having myself had frequent opportunities of examining both sexes of these birds, I find that, like most others, they are subject when young to a progressive change of color. The full plumaged male is as follows: length twenty inches, extent twenty-nine inches; the base of the bill, and edges of both mandibles for two-thirds of their length, are of a pale orange color, the rest black, towards the extremity it widens a little in the manner of the Shovellers, the sides there having the singularity of being only a soft, loose, pendulous skin; irides dark hazel; head and half of the neck white, marked along the crown to the hind-head with a stripe of black; the plumage of the cheeks is of a peculiar bristly nature at the points, and round the neck passes a collar of black, which spreads over the back, rump, and tail coverts; below this color the upper part of the breast is white, extending itself over the whole scapulars, wing coverts, and secondaries; the primaries, lower part of the breast, whole belly, and vent are black; tail pointed, and of a blackish hoary color; the fore part of the legs and ridges of the toes pale whitish ash; hind part the same bespattered with blackish, webs black; the edges of both mandibles are largely pectinated. In young birds, the whole of the white plumage is generally strongly tinged with a yellowish cream color; in old males these parts are pure white, with the exception sometimes of the bristly pointed plumage of the cheeks, which retains

* *Anas Labrador*, Gmel. *Syst.* I., p. 526, No. 97.—*Ind. Orn.* p. 861, No. 74.—*Le Canard Jansen*, *Pl. Enl.* 955.—*Buff.* IX., p. 174.

its cream tint the longest, and, with the skinny part of the bill, form two strong peculiarities of this species.

The female measures nineteen inches in length, and twenty-seven in extent; bill exactly as in the male; sides of the front white; head, chin, and neck ashy gray; upper parts of the back and wings brownish slate; secondaries only, white; tertials hoary; the white secondaries form a spot on the wing, bounded by the black primaries, and four hoary tertials edged with black; whole lower parts a dull ash skirted with brownish white, or clay color; legs and feet as in the male; the bill in both is marked from the nostrils backwards by a singular heart-shaped outline.

The windpipe of the male measures ten inches in length, and has four enlargements, viz., one immediately below the mouth, and another at the interval of an inch; it then bends largely down to the breast bone, to which it adheres by two strong muscles, and has at that place a third expansion. It then becomes flattened, and before it separates into the lungs, has a fourth enlargement much greater than any of the former, which is bony, and round, puffing out from the left side. The intestines measured six feet; the stomach contained small clams, and some glutinous matter; the liver was remarkably large.

SPECIES XXVI. *ANAS HISTRIONICA*.

HARLEQUIN DUCK.

[Plate LXXII. Fig. 4, Male.]

Le Canard à Collier de Terre Neuve, BRISS. VI., p. 362, 14.—BUFF. IX., p. 250.—*Pl. Enl.* 798.—*Arct. Zool.* No. 490.—LATH. *Syn.* III., p. 484.*

THIS species is very rare on the coasts of the Middle and Southern States, though not unfrequently found off those of New England, where it is known by the dignified title of the *Lord*, probably from the elegant crescents and circles of white which ornament its neck and breast. Though an inhabitant of both continents, little else is known of its particular manners than that it swims and dives well; flies swift, and to a great height; and has a whistling note. It is said to frequent the small rivulets inland from Hudson's Bay, where it breeds. The female

* *Anas Histrionica*, GMEL. *Syst.* I., p. 534, No. 35; *A. minuta*, Ib. No. 36, female.—*Ind. Orn.* p. 849, No. 45.—*Gen. Syn.* III., p. 484, 485, female.—*Dusky and Spotted Duck*, EDWARDS, pl. 99; *Little Brown and White Duck*, Id. pl. 157, female.—*La Sparcelle de la Baye de Hudson*, BRISS. VI., p. 469, No. 41, female.—*Темм. Ман. d'Orn.* p. 878.

lays ten white eggs on the grass; the young are prettily speckled. It is found on the eastern continent as far south as Lake Baikal, and thence to Kamtschatka, particularly up the river Ochotska; and was also met with at Aoonalashka and Iceland.* At Hudson's Bay it is called the Painted Duck, at Newfoundland and along the coast of New England, the Lord; it is an active vigorous diver, and often seen in deep water, considerably out at sea.

The Harlequin Duck, so called from the singularity of its markings, is seventeen inches in length, and twenty-eight inches in extent; the bill is of a moderate length, of a lead color tipped with red, irides dark; upper part of the head black; between the eye and bill a broad space of white, extending over the eye, and ending in reddish; behind the ear a similar spot; neck black, ending below in a circle of white; breast deep slate, shoulders or sides of the breast, marked with a semi-circle of white; belly black; sides chestnut; body above black or deep slate, some of the scapulars white; greater wing coverts tipped with the same; legs and feet deep ash; vent and pointed tail black.

The female is described as being less, "the forehead, and between the bill and eye, white, with a spot of the same behind the ear; head, neck, and back, brown, palest on the fore part of the neck; upper part of the breast and rump red brown, lower breast and belly barred pale rufous and white; behind the thighs rufous and brown; scapulars and wing coverts rufous brown; outer greater ones blackish; quills and tail dusky, the last inclining to rufous; legs dusky."*

The few specimens of this Duck which I have met with, were all males; and from the variation in their colors it appears evident that the young birds undergo a considerable change of plumage before they arrive at their full colors. In some the white spot behind the eye was large, extending irregularly half way down the neck; in others confined to a roundish spot.

The flesh of this species is said to be excellent.

* Latham.

GENUS CI. PLOTUS. DARTER.

SPECIES. *P. ANHINGA*.

DARTER, OR SNAKE-BIRD.*

[Plate LXXIV. Fig. 1, Male.]

Plotus anHINGA, LINN. *Syst.* ed. 12, tom. I., p. 218.—GMEL. *Syst.* I., p. 580, 1.—*Ind. Orn.* p. 895, 1. *Plotus melanogaster*, Id. p. 896, var. B., var. C.—*AnHINGA Brasiliensibus Tupinamb.* MARCGRAV. *Hist. Nat. Bras.* p. 218.—*L'AnHINGA*, BRISS. VI., p. 476.—SALERNE, p. 375.—BUFF. *Ois.* VIII., p. 448. *AnHINGA noir de Cayenne*, Pl. Enl. 960.—*White-bellied Darter*, LATH. *Gen. Syn.* III., p. 622, 1. *Black-bellied Darter*, Id. p. 624, var. A. pl. 106. Id. p. 625, var. B.—*Colymbus colubrinus*, *Snake-bird*, BARTRAM, p. 132, 295.

HEAD, neck, whole body above and below, of a deep shining black, with a green gloss, the plumage extremely soft, and agreeable to the touch; the commencement of the back is ornamented with small oblong ashy white spots, which pass down the shoulders, increasing in size according to the size of the feathers, and running down the scapulars; wings and tail of a shining black, the latter broadly tipped with dirty white; the lesser coverts are glossed with green, and are spotted with ashy white; the last row of the lesser coverts, and the coverts of the secondaries, are chiefly ashy white, which forms a large bar across the wing; the outer web of the large scapulars is crimped; tail rounded, the two under feathers the shortest, the two upper feathers, for the greater part of their length, beautifully crimped on their outer webs, the two next feathers in a slight degree so; bill dusky at the base and above, the upper mandible brownish yellow at the sides, the lower mandible yellow ochre; inside of the mouth dusky; irides dark crimson; the orbit of the eye, next to the plumage of the head, is of a greenish blue color, this passes round, in the form of a zigzag band, across the front—the next color is black, which entirely surrounds the eye; eyelids of a bright azure, running into violet next to the eyeball; lores greenish blue; naked skin in front black; jugular pouch jet black; hind-head subcrested; along the sides of the neck there runs a line of loose unwebbed feathers, of a dingy ash color, resembling the plumage of callow young, here and there on the upper part of the neck one perceives a feather of the same; on the forehead there is a small knob or

* Named in the plate Black-bellied Darter.

protuberance; the neck, near its centre, takes a singular bend, in order to enable the bird to dart forward its bill, with velocity, when it takes its prey; legs and feet of a yellowish clay color, the toes, and the hind part of the legs, with a dash of dusky; claws greatly falcated; when the wings are closed, they extend to the centre of the tail.

Length from the tip of the bill to the end of the tail two feet ten inches,* breadth three feet ten inches; bill to the angle of the mouth full four inches; tail ten inches and a half, composed of twelve broad and stiff feathers. Weight three pounds and a half.

The serratures of the bill are extremely sharp, so much so, that when one applies tow, or such like substance, to the bird's mouth, it is with difficulty disengaged.

The lower mandible and throat, as in the Divers, are capable of great expansion, to facilitate the swallowing of fish, which constitute the food of this species. The position of these birds, when standing, is like that of the Gannets.

The above description was taken from a fine adult male specimen, which was shot by my fellow-traveller, Mr. T. Peale, on the first of March, 1818, in a creek below the Cow Ford, situated on the river St. John, in East Florida. We saw some others in the vicinity, but owing to their extreme vigilance and shyness, we could not procure them.

From the description of the White-bellied Darter of Latham and others, which is unquestionably this species, one would be inclined to conjecture, that the bird figured in our plate, as the female, is the young male. But this point it is not in my power to ascertain. The specimens in Peale's Museum, from which Wilson took his figures, were labelled male and female. All the Darters which I saw, while in Florida, were males.

The Snake-bird is an inhabitant of the Carolinas, Georgia, the Floridas and Louisiana; and is common in Cayenne and Brazil. It seems to have derived its name from the singular form of its head and neck, which, at a distance, might be mistaken for a serpent. In those countries where noxious animals abound, we may readily conceive, that the appearance of this bird, extending its slender neck through the foliage of a tree, would tend to startle the wary traveller, whose imagination had portrayed objects of danger lurking in every thicket. Its habits, too, while in the water, have not a little contributed to its name.

* The admeasurement of the specimen, described in the first edition of this work, was made by Wilson himself, from the stuffed bird in Peale's Museum. It differed considerably from that described above; but as our specimen was a very fine one, there is room to conjecture that there was some error in the admeasurement of the former, ours being described immediately after death.

It generally swims with its body immersed, especially when apprehensive of danger, its long neck extended above the surface, and vibrating in a peculiar manner. The first individual that I saw in Florida, was sneaking away to avoid me, along the shore of a reedy marsh, which was lined with alligators, and the first impression on my mind was that I beheld a snake; but the recollection of the habits of the bird soon undeceived me. On approaching it, it gradually sank; and my next view of it was at many fathoms distance, its head merely out of the water. To pursue these birds at such times is useless, as they cannot be induced to rise, or even expose their bodies.

Wherever the limbs of a tree project over, and dip into, the water, there the Darters are sure to be found, these situations being convenient resting places for the purpose of sunning and preening themselves; and, probably, giving them a better opportunity, than when swimming, of observing their finny prey. They crawl from the water upon the limbs, and fix themselves in an upright position, which they maintain in the utmost silence. If there be foliage, or the long moss, they secrete themselves in it in such a manner that they cannot be perceived, unless one be close to them. When approached, they drop into the water with such surprising skill, that one is astonished how so large a body can plunge with so little noise, the agitation of the water being, apparently, not greater than that occasioned by the gliding of an eel.

Formerly the Darter was considered by voyagers as an anomalous production, a monster partaking of the nature of the snake and the Duck; and in some ancient charts which I have seen, it is delineated in all the extravagance of fiction.

From Mr. William Bartram we have received the following account of the subject of our history:

"Here is in this river,* and in the waters all over Florida, a very curious and handsome bird, the people call them Snake-birds; I think I have seen paintings of them on the Chinese screens, and other Indian pictures; they seem to be a species of *Colymbus*, but far more beautiful and delicately formed than any other that I have ever seen. They delight to sit in little peaceable communities, on the dry limbs of trees, hanging over the still waters, with their wings and tails expanded, I suppose to cool and air themselves, when at the same time they behold their images in the watery mirror. At such times when we approach them, they drop off the limbs into the water as if dead, and for a minute or two are not to be seen; when on a sudden, at a great distance, their long slender head and neck appear, like a snake rising erect out of the water; and no other part of them is to be seen when swimming, except sometimes the tip end of their tail. In the heat of the day they are

* The river St. Juan, East Florida.

seen in great numbers, sailing very high in the air, over lakes and rivers.

"I doubt not but if this bird had been an inhabitant of the Tiber in Ovid's days, it would have furnished him with a subject for some beautiful and entertaining metamorphoses. I believe they feed entirely on fish, for their flesh smells and tastes intolerably strong of it: it is scarcely to be eaten, unless one is constrained by insufferable hunger. They inhabit the waters of Cape Fear river, and, southerly, East and West Florida."*

PLOTUS ANHINGA.

DARTER, OR SNAKE-BIRD.

[Plate LXXIV. Fig. 2, Female.]

Anhinga de Cayenne, Pl. Enl. 959.

THE Female Darter measures three feet five inches in length; and differs in having the neck before of a roan color or iron gray, the breast the same, but lighter and tinged with pale chestnut; the belly as in the male; where the iron gray joins the black on the belly, there is a narrow band of chestnut; upper head, and back of the neck, dark sooty brown, streaked with blackish; cheeks and chin pale yellow ochre; in every other respect the same as the male, except in having only a few slight tufts of hair along the side of the neck; the tail is twelve inches long to its insertion, generally spread out like a fan, and crimped like the other on the outer vanes of the middle feathers only.

The above is a description of the supposed female Darter, which was preserved in Peale's Museum; Wilson's figure was taken from this specimen. It was contrary to his practice to make his drawings from stuffed birds, but as he had never had an opportunity of beholding this species in a living or recent state, he was compelled, in this instance, to resort to the museum.

The author having written to Mr. John Abbot, of Georgia, relative to this species, and some others, received from this distinguished naturalist a valuable communication, from which the following extract is made: "Both the Darters I esteem as but one species. I have now by me a drawing of the male, or Black-bellied, only; but have had speci-

* Bartram's Travels, p. 132.—MS. in the possession of the author. [From Mr. Ord's Supplementary Volume.]

mens of both at the same time. I remember that the upper parts of the female were similar to those of the male, except that the color and markings were not so pure and distinct; length thirty-six inches, extent forty-six. These birds frequent the ponds, rivers and creeks, during the summer; build in the trees of the swamps, and those of the islands in the ponds; they construct their nests of sticks; eggs of a sky blue color. I inspected a nest, which was not very large; it contained two eggs and six young ones, the latter varying much in size; they will occupy the same tree for a series of years. They commonly sit on a stump, which rises out of the water, in the mornings of the spring, and spread their wings to the sun, from which circumstance they have obtained the appellation of Sun-birds. They are difficult to be shot when swimming, in consequence of only their heads being above the water."

Never having seen a specimen of the Black-bellied Darter of Senegal and Java, I cannot give an opinion touching its identity with ours.*

* From Mr. Ord's Supplementary Volume.

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AMERICAN ORNITHOLOGY.

*Vol. 1. 1825. 100 pages. 10 plates. 10
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P R E F A C E

TO THE ORIGINAL EDITION IN FOUR VOLUMES.

AMERICAN ORNITHOLOGY has uniformly presented a highly interesting subject of investigation to naturalists and liberally educated persons, even when the means of gratifying general curiosity were few and difficult of attainment. Wilson's invaluable work removed the obstacles preventing access to this attractive study, conferred on him an imperishable renown, improved the taste and elevated the scientific character of his fellow-citizens, and secured the approbation of the judicious and enlightened in all countries.

Placed where he could derive little or no aid from scientific books or men, Wilson's ardent and perspicacious mind triumphed over circumstances, and enabled him to exhibit the truths he discovered in that warm, lucid, and captivating language, which never fails to reach the heart of his reader, because it flowed direct from his own; whilst his clearness of arrangement, accuracy of description, and faithfulness of delineation, show, most advantageously, the soundness of his judgment and the excellence of his observation. We may add, without hesitation, that such a work as he has published in a new country, is still a desideratum in any part of Europe.

It was the inspiration derived from that pure and perennial source, the contemplation of nature, which gave Wilson the power of illustrating every object of his research, and imparting to the most abstruse discussions the charm of vigorous originality. Unfortunately for the interests of science, his eagerness to augment his stock of knowledge by more incessant application, impaired his constitution to such a degree, that he sunk under the hand of death, before his great work was completed, and before he could reap that rich harvest of fame which

has followed the appearance of his writings, wherever the English language is understood, or natural history admired.

A love for the same department of natural science, and a desire to complete the vast enterprise so far advanced by Wilson's labors, has induced us to undertake the present work, in order to illustrate what premature death prevented him from accomplishing, as well as the discoveries subsequently made in the feathered tribes of these States. This undertaking was not precipitately decided on, nor until the author had well ascertained that no one else was willing to engage in the work. He was aware of his inability to portray the history and habits of birds in a style equal to that of his distinguished predecessor, principally because he does not write in his own language; and were his abilities equal to his wishes, the species recorded in the following pages are, for the most part, so rare, and their history so little known, as to preclude the possibility of making the attempt.

To compensate for such disadvantages, the author has throughout endeavored to give accurate descriptions, correct synonymes, and a nomenclature as conformable to nature as possible. He has been equally solicitous to procure the best representations of his birds; in which he hopes he has succeeded, through the happy pencil of Mr. Titian Peale, who has invariably drawn from the recent bird, and not from the preserved specimen; this being the principal advantage of works on Natural History, published in the country where the animals figured are found. The want of such opportunities of making drawings, causes the chief defect of various magnificent European works, in which beauty and brilliancy of coloring scarcely compensate for the unnatural stiffness, faithfully copied from stuffed skins. With the birds always before him, Mr. Lawson has transferred our drawings to the copper with his usual unrivalled accuracy and ability. This artist, who acquired so much distinction by the engravings in Wilson's work, has become perfectly master of his art, and so intimately acquainted with the various parts of a bird, that he may be justly styled the first ornithological engraver of our age. That important part of the work, the coloring of the plates, has not been intrusted to inexperienced persons, but has throughout been executed from nature by Mr. A. Rider himself, whose talents as an artist are well known.

To my friends Mr. Thomas Say, and Dr. John D. Godman, my sin-

cere thanks are due, for the care they have bestowed in preventing the introduction of foreign expressions, or phrases not idiomatic, into my composition.

As the birds of Florida were principally wanting, and it is even supposed that several of those belonging to Cuba, and other West India Islands, may occasionally resort to the southern part of Florida, and thus be entitled to a place in our work, a painter-naturalist was selected to visit that part of the Union which Wilson had been so desirous of exploring. A better choice could not have been made than that of Mr. Titian Peale, whose zeal in the cause of natural history had previously induced him to join those useful citizens, who, under the command of that excellent officer, Major Long, explored the western wilds as far as the Rocky Mountains. Mr. Peale's success in that expedition, where he procured and drew on the spot almost all the new birds contained in this volume, will warrant us in anticipating much from his exertions in Florida.

We expect that our American Ornithology will extend to three volumes, so, that with the nine previously published by Wilson, the whole subject will be embraced in twelve. The present volume contains land birds only; and in evidence of Wilson's industry we may state, that we have been unable to adduce a new Pennsylvanian bird. For the contents of this volume, we have been obliged to resort to birds inhabiting the western territories, the greater part of which were first made known by Say, in the Account of Long's Expedition to the Rocky Mountains, a work that has justly acquired a high degree of celebrity, and is no less creditable to the nation than to the individuals concerned in its production.

The second volume will be devoted to water birds, some of which are common in the very city of Philadelphia. The third will contain birds of both sub-classes indiscriminately, and will chiefly consist of Mr. Peale's gleanings in Florida.

PREFACE

TO THE SECOND AND THIRD VOLUMES.

THE author's original intention, as announced in the preface to the first volume of this work, was to have devoted the second exclusively to water birds, reserving for the third the few unpublished land birds which he at that time possessed. Having since, however, by extending his researches to the most opposite and remote parts of the Union, fortunately succeeded in procuring a sufficient number of land birds to make up a volume, or perhaps two, by themselves, he has changed his original plan for one which is more systematical, and which moreover enables him to complete the series of the numerous and interesting order of Passeres. All the remaining land birds of the United States will then be, the three large Vultures, the most interesting of which, the Condor, is already drawn; the *Strix cinerea*, the largest Owl known; and the Californian Quail.*

* Two of the Vultures are figured by Temminck in the *Planches Coloriées*; *Cathartes californianus*, Pl. 31, and *Cathartes gryphus*, Pl. 133, the male, and Pl. 408, the young female. The latter species had also been previously figured by Humboldt, *Obs. de Zool.* The third, *Cathartes papa*, was long since figured by Buffon, *Pl. Enl.* 428; and also by Vieillot, *Gal. des Ois.* Pl. 3, under the name of *Gypagus papa*.

Strix cinerea has never been represented, and was ranked by us among those species which from their not having for a long period come under the observation of naturalists, we considered obsolete. We have recently ascertained that it inhabits near Lake Superior, and intend that it shall occupy a plate in a future volume, along with several Hawks, which though represented by Wilson, we think it necessary to figure in various states of plumage in order to clear up the intricacy of their history.

Perdix californica has been figured by Lapeyrouse, Shaw, and others.

By all the land birds of the United States, we must be understood to mean those we have personally ascertained. While discoveries are daily making in the Ornithology of Europe, nay even among the feathered tribes of the island of Great Britain, whose limited extent, peculiar situation, and high degree of civilization, ought to have long since rendered her productions thoroughly known, it would be highly presumptuous to imagine that no bird remained to be discovered in a country embracing such a vast extent of unexplored territory as this. Mr. J. J. Audubon, painter-naturalist, who has devoted twenty years of his life to studying nature in the forests of the West, has gratified us with the sight of several drawings of new species which will appear among the plates he is now engaged in publishing. It is greatly to be wished, for the advancement of American Ornithology, that while his work, so magnificent, but necessarily so slow in coming forth, is preparing, a scientific abstract of his discoveries should be drawn up without delay.

Besides the new discoveries that may be daily expected, many known species will probably hereafter be found entitled to enter the Fauna of these states. They may be arranged in two classes, of which the first will comprise those already well known to inhabit the more northern regions of America, and which may at some future period be ascertained to extend their range within our limits: these are all common to both continents; as instances we may adduce *Loxia pytiopsittacus*, *Saxicola oenanthe*, *Tetrao albus*, and *T. lagopus*, &c. Already in the present volume their companions, *Emberiza lapponica* and *Picus tridactylus*, take their station, for the first time, among the birds of the United States. The other class will include those tropical American birds which in all probability visit, either occasionally or at regular periods, the southern borders of Florida and Louisiana, thus entitling them to a place in this work. The *Falco dispar*, and *Columba leucocephala*, of the present volumes, may be cited as examples of the latter description.

But in our opinion the most interesting, and towards which we most earnestly desire to direct the attention of American naturalists and collectors, are those species once noticed by former authors, but from not having been since observed, now become in a manner obsolete, though still without being declared nominal. Such was for a period the case with *Garrulus stelleri* of this volume, and is yet with *Sylvia velata* and

others established by Vieillot, of whose existence as distinct species there can hardly be any reasonable doubt. In order more clearly to explain our meaning, it may be proper to enter into the following calculations.

In Linné's last edition of his *Systema Naturæ*, a work professing to contain, like all others, all the then known birds of the United States, which had been chiefly taken from the original sources of Catesby and Edwards, only one hundred and eighty-three are assigned to North America. It is true that he was acquainted with several other North American birds which also inhabit other countries, those common to Europe especially; but as many of the one hundred and eighty-three are merely nominal, we may allow them to counterbalance those omitted. Of the entire number, one hundred and three are land birds, all which we have verified either as real or nominal, four excepted, of which *Picus hirundinaceus* alone (a real species) may have escaped Wilson and ourselves, though we do not believe it. Of the three remaining, two, *Lanius canadensis* and *Loxia canadensis*, are now well known to be South American birds given as North American through mistake; and the third, *Sylvia trochilus* of Europe, may have been reckoned as American on account of the resemblance between it and the female of some American Warbler, probably *Sylvia trichas*.

Since the time of Linné however, great attention has been paid to American Ornithology, and very numerous contributions made to the Fauna of the United States, particularly in the standard works of Penant and Latham. As all these are embodied in Latham's vast compilation, the *Index Ornithologicus*, we shall take that as our guide. We there find that no less than four hundred and sixty-four species are set down as North American! It is hardly necessary to remark how greatly surcharged with nominal species this number must be, when we consider that after the lapse of many years, and the addition of so many genuine species by Wilson and ourselves, the number we admit is still short of four hundred. A work professing to review with care the North American part of Latham's *Index*, species by species, on the plan of our "Observations on the Nomenclature of Wilson's Ornithology," is still a desideratum; and if executed with accuracy and judgment, would be as advantageous to science, as arduous for the naturalist who should undertake it. For the present, leaving what we have to say concerning the water birds to the volume wherein they

are to be especially treated of, we shall content ourselves with stating, that out of Latham's four hundred and sixty-four species, two hundred and sixty-nine are land birds. Of these, one hundred and fifty at most are admitted by us, and though it would not be difficult to prove nominal about sixty, there will still remain about sixty others, whose habitat is false, or which are not sufficiently investigated. Such is the state of things to which we call the attention of ornithologists.

However this may be, Wilson only described two hundred and seventy species, of which one hundred and seventy-nine were land birds. Sixteen more are added in the first volume of this work. The second and third will contain an additional sixteen, after which there yet remain five others whose existence we have ascertained, making a total of two hundred and sixteen.*

The large size and importance of some of the birds given in the two present volumes, among which are three Hawks and four Grouse, have obliged us to distribute the sixteen new species that they contain, together with nine others, of which two only are reduced, upon twelve plates. It therefore rested with our publishers to issue one large, or two smaller volumes, and the latter course is that which they have thought proper to adopt.

* These may all be found in our *Synopsis of the Birds of the United States*, and *Appendix*, published in the *Annals of the Lyceum of Natural History* of New York, Vol. II.

AMERICAN ORNITHOLOGY.

MUSCICAPA SAVANA.

FORK-TAILED FLYCATCHER.

[Plate I. Fig. 1.]

Muscicapa tyrannus, LINN. *Syst.* I., p. 325, Sp. 4.—GMEL. *Syst.* I., p. 931, Sp. 4.—LATH. *Ind.* p. 484, Sp. 69.—*Tyrannus savana*, VIEILL. *Ois. de l'Am. Sept.* I., p. 72, pl. 43 (a South American specimen).—VIEILL. *Nouv. Dict. d'Hist. Nat.* xxxv., p. 87.—*Muscicapa tyrannus cauda bifurca*, BRISS. *Av.* II., p. 395, Sp. 20, pl. 39, fig. 3.—*Le Moucherolle savana*, BUFF. *IV.*, p. 557, pl. 26.—*Le Tyran à queue fourchoue de Cayenne*, BUFF. *Pl. Enl.* 571, fig. 2.—*Fork-tailed Flycatcher*, PENN. *Arct. Zool. Sp.* 265.—LATH. *Syn.* II., Part 1, p. 355, Sp. 59.

THOUGH Brisson, Linné, and Pennant have stated the Fork-tailed Flycatcher to inhabit this region, as far north as Canada, still the fact seemed more than doubtful, since this bird escaped the researches of Vieillot, and, what is more extraordinary, those of the indefatigable Wilson. It is, therefore, a very gratifying circumstance, that we are able to introduce this fine bird with certainty into the Ornithology of the United States, and, by the individual represented in the annexed plate, to remove all doubt on the subject. The specimen from which our drawing was made is a beautiful male, in full plumage; it was shot near Bridgeton, New Jersey, at the extraordinary season of the first week in December, and was presented by Mr. J. Woodcraft, of that town, to Mr. Titian Peale, who favored me with the opportunity of examining it.

Brisson published the first account of this bird. That we have rejected the name given by Linné may appear contrary to our principles; but in this instance we certainly have no option, inasmuch as the same name has been very properly retained by Wilson, agreeably to Brisson, for the *Lanius tyrannus* of Linné. Had Linné himself included them both in the same genus, he would doubtless have retained that specific name for the King-bird, which is unquestionably a *Muscicapa* and not a *Lanius*. As the King-bird is a very abundant species, known to every zoological reader by the name of *tyrannus*, it is obvious that

less inconvenience will be produced by changing the name of an almost unknown species, than would result from altering that of one with which we are so familiar. We have therefore adopted Vieillot's specific name of *savana*, taken by that author from Montbeillard, who, in Buffon's work, thereby endeavored to commemorate this bird's habit of frequenting inundated savannas. Naturalists who separate *Tyrannus* from *Muscicap*a generically, disagree with respect to the arrangement of this species. For ourselves, we consider the former as a sub-genus of *Muscicap*a, including the larger species, among which our Fork-tailed Flycatcher must be placed.

This species is fourteen inches long, its tail measuring nearly ten; the extent from the tip of one wing to that of the other is fourteen inches. The bill is somewhat more slender and depressed at base than that of the King-bird, and, as well as the feet, is black. The irides are brown. The upper part of the head, including the cheeks and superior origin of the neck, is velvet-black. The feathers of the crown are somewhat slender, elevated, and of a yellow-orange color at base, constituting a fine spot, not visible when they are in a state of repose; the remaining part of the neck above and the back are grayish ash; the rump is of a much darker grayish ash, and gradually passes into black, which is the color of the superior tail coverts; the inferior surface of the body, from the base of the bill, as well as the under wing and under tail coverts, is pure white. The wings are dusky, the coverts being somewhat lighter at tip and on the exterior side; the first primary is edged with whitish on the exterior web, and is equal in length to the fourth; the second primary is longest; the three outer ones have a very extraordinary and profound sinus or notch on their inner webs, near the tip, so as to terminate in a slender process. The tail is very profoundly forked, the two exterior feathers measuring nearly ten inches in perfect individuals, whilst the two succeeding are but five inches long, and the other feathers become gradually and proportionably shorter, until those in the middle are scarcely two inches in length; the tail is, in fact, so deeply divided, that if the two exterior feathers were removed, it would still exhibit a very forked appearance. All the tail feathers are black, the exterior one each side being white on the remarkably narrow outer web, and on the shaft beneath, for nearly three-fourths of its length.

I cannot agree with those who say that the female is distinguished from the other sex by wanting the orange spot on the head, as I think we may safely conclude, from analogy, that there is hardly any difference between the sexes. The young birds are readily recognised, by being destitute of that spot, as well as by having the head cinereous, instead of black; the color of the whole upper part of the body is also darker, the tail considerably shorter, and the exterior feathers not so

much elongated as those of the adult. It is proper to remark, that the elongated tail feathers of the full grown bird are sometimes very much worn, in consequence of the rapidity with which it passes through the bushes.

Two colored figures have been given of the Fork-tailed Flycatcher, the one by Buffon, which is extremely bad, although the rectilinear form of the tail is correctly represented; the other, by Vieillot, which has the exterior tail feathers unnaturally curved, and notwithstanding it is preferable to Buffon's figure, yet it is far from being accurate. This author having been unable to procure a North American specimen, chose nevertheless to introduce the species in his Natural History of North American Birds, on the authority of former authors, giving a figure from a South American specimen. The error in representing the exterior tail feathers curved, doubtless arose from the manner in which the dried skin was packed for transportation. That our drawing of this graceful bird is far superior to those above mentioned, will at once be evident on comparison; this superiority is owing to the circumstance of this drawing, like all the others given in the present work, being made from the recent specimen. Buffon's plain figure is a more faithful representation than that given in his colored engravings.

From the very great rarity of the Fork-tailed Flycatcher in this region, and the advanced season in which this individual was killed, it is evident that it must have strayed from its native country under the influence of extraordinary circumstances; and we are unable to believe that its wanderings have ever extended as far as Canada, notwithstanding the statements of authors to the contrary. It may be proper to observe, that the difference indicated by Linné and Latham between the variety which they suppose to inhabit Canada, and that of Surinam, appears to have no existence in nature.

Although this bird is so very rare and accidental here, we should be led to suppose it a more regular summer visitant of the Southern States, were it not impossible to believe that so showy a bird could have escaped the observation of travellers; hence we infer, that the Fork-tailed Flycatcher must be included in the catalogue of those species which are mere fortuitous visitors to the United States. As but a single specimen of this bird has been obtained, I cannot give any account of its manners and habits from personal observation.

The native country of the Fork-tailed Flycatcher is Guiana, where it is rather common, and is improperly called *Veuve* (Widow), from the great length of its tail, in which character only it resembles the African birds of that name.

The habits of the Fork-tailed Flycatcher resemble those of other species of the same genus. It is a solitary bird, remaining for a long time perched on the limb of a tree, whence it occasionally darts after

passing insects; or, flying downwards, it alights on the tufts of herbage which appear above the water, affording it a resting place in the midst of those partially inundated lands called savannas, beyond the limits of which it is not frequently seen. While on the tuft, this bird moves its tail in a manner similar to that of the Wagtails. Besides insects, the Fork-tailed Flycatcher feeds occasionally on vegetable substances, as, on dissection, the stomach of our specimen was found to be filled with Pokeberries (*Phytolacca decandra*, L.).

Beyond these particulars we have no positive knowledge of the manners of our Flycatcher, though Vieillot has recorded a history of some length, taken from D'Azara; but the bird observed by the latter author in Paraguay and Buenos Ayres, though closely allied, appears to be specifically distinct from the one we are describing. Vieillot has since been convinced of this difference, and, in the (French) New Dictionary of Natural History, he has separated the more southern species under the name of *Tyrannus violentus*. In color that bird strongly resembles our *Muscicapa savana*, but it is considerably smaller, and has different habits, being gregarious; whilst the *savana*, as we have already stated, is a solitary bird.

Another species, for which ours may be readily mistaken, is the *Tyrannus bellulus*, Vieill., which, however, is much larger, with a still longer tail, differing also by having a large black collar extending to each corner of the eye, margining the white throat; and the head of the same bluish-gray color with the other superior parts of the body; the remaining under parts being of the same color, with a narrow brown line in the middle of each feather; and by having a whitish line on each side of the head behind the eye, extending to the occiput. The *Tyrannus bellulus* is a native of Brazil.

MYIOTHERA OBSOLETA.

ROCKY MOUNTAIN ANTCATCHER.

[Plate I. Fig. 2.]

Troglodytes obsoleta, SAY, in *Long's Expedition to the Rocky Mountains*, vol. II., p. 4.

THIS bird is one of those beings which seem created to puzzle the naturalist, and convince him that nature will never conform to his systems, however perfect his ingenuity may be capable of devising them. This will become sufficiently apparent, when we consider in what manner different authors would have arranged it.

We cannot positively decide whether Vieillot and his followers would have referred this species to *Myrmothera*, a name they have substituted for *Myiothera*; to their genus *Thryothorus*, which we unite to *Troglodytes*; or to their slender-billed section of *Tamnophilus*, rejected by us from that genus, and of which some recent authors have made a genus called *Formicivora*; yet we have very little hesitation in stating our belief, that they would have assigned its place among the species of the latter. According to our classification, it is certainly not a *Tamnophilus*, as we adopt the genus, agreeably to the characters given by Temminck, who, not admitting the genus *Troglodytes*, would undoubtedly have arranged this bird with *Myiothera*, as Illiger would also have done.

The only point, therefore, to be established by us, is whether this bird is a *Myiothera* or a *Troglodytes*. It is, in fact, a link intermediate to both. After a careful examination of its form, especially the unequal length of the mandibles, the notch of the superior mandible, and the length of the tarsus; and, after a due consideration of the little that is known relative to its habits, we unhesitatingly place it with *Myiothera*, though in consequence of its having the bill more slender, long, and arcuated than that of any other species I have seen, it must occupy the last station in the genus, being still more closely allied to *Troglodytes*, than those species whose great affinity to that genus has been pointed out by Cuvier. This may be easily ascertained, by comparing the annexed representation with the figures given by Buffon and Temminck. The figure which our Rocky Mountain Antcatcher resembles most, is Buffon's Pl. Enl. 823, fig. 1 (*Myiothera lineata*). The colors of our bird are also similar to those of a Wren, but this similitude is likewise observed in other *Myiotheræ*.

The bird now before us was brought from the Arkansas river, in the neighborhood of the Rocky Mountains, by Major Long's exploring party, and was described by Say under the name of *Troglodytes obsoleta*, from its close resemblance to the Carolina Wren (*Troglodytes Ludovicianus*), which Wilson considered a *Certhia*, and Vieillot a *Thryothorus*.

As the Rocky Mountain Antcatcher is the first and only species hitherto discovered in North America, we shall make some general observations on the peculiarities of a genus thus introduced into the Fauna of the United States.

Buffon first formed a distinct group of the Antcatchers under the name of *Fourmiliers*, and considered them as allied to his *Brèves*, now forming the genus *Pitta* of Vieillot, they having been previously placed in that of *Turdus*. Lacépède adopted that group as a genus, and applied to it the name of *Myrmecophaga*. Illiger added such species of the genus *Lanius* of Linné and Latham, as are destitute of prominent teeth to the bill, and gave to the genus thus constituted the name of *Myiothera*; rejecting Lacépède's designation, as already appropriated to a genus of Mammalia.

Cuvier perceived that some of the *Fourmiliers* of Buffon were true Thrushes; but he retained the remainder as *Myiotheræ*, among which he also included the *Pittæ*. Vieillot, besides the *Pittæ*, removed some other species, in order to place them in his new genera *Conopophaga* and *Tamnophilus*, giving the name of *Myrmothera* to the remaining species, with the exception of the *Myiothera rex*, for which he formed a distinct genus, with the name of *Grallaria*. We agree with Vieillot, in respect to the latter bird; but as regards the other species, we prefer the arrangement of Temminck, who has adopted the genus *Myiothera* nearly as constituted by Illiger, including some of the slender-billed *Tamnophili* of Vieillot, of which our *Myiothera obsoleta* would probably be one, as above-stated.

The genus thus constituted contains numerous species, which inhabit the hottest parts of the globe; a greater number of them existing in South America than elsewhere. For the sake of convenience, several sections may be formed in this genus, founded on the characters of the bill, tail, and tarsus; but as we have only one species, it does not rest with us to make divisions, and we shall merely remark, that our *obsoleta* is referable to the last section, consisting of those whose bills are the most slender, elongated, and arcuated, in company with the *Turdus lineatus* of Gmelin.

The Antcatchers may justly be enumerated amongst the benefactors of mankind, as they dwell in regions where the ants are so numerous, large, and voracious, that without their agency, co-operating with that of the *Myrmecophaga jubata*, and a few other ant-eating quadrupeds,

the produce of the soil would inevitably be destroyed in those fertile parts of the globe. The ant-hills of South America are often more than twenty feet in diameter, and many feet in height. These wonderful edifices are thronged with two hundred fold more inhabitants, and are proportionally far more numerous, than the small ones with which we are familiar. Breeding in vast numbers, and multiplying with great celerity and profusion, the increase of these insects would soon enable them to swarm over the greatest extent of country, were not their propagation and diffusion limited by the active exertions of that part of the animal creation, which continually subsist by their destruction.

The Antcatchers run rapidly on the ground, alighting but seldom on trees, and then on the lowest branches; they generally associate in small flocks, feed exclusively on insects, and most commonly frequent the large ant-hills before mentioned. Several different species of these birds are often observed to live in perfect harmony on the same mound, which, as it supplies an abundance of food for all, removes one of the causes of discord which is most universally operative throughout animated nature. On the same principle we might explain the comparative mildness of herbivorous animals, as well as the ferocity and solitary habits of carnivorous, and particularly of rapacious animals, which repulse all others from their society, and forbid even their own kind to approach the limits of their sanguinary domain.

The Antcatchers never soar high in the air, nor do they extend their flight to any great distance without alighting to rest, in consequence of the shortness of their wings and tail, which, in fact, seem to be seldom employed for any other purpose than to assist them in running along the ground, or in leaping from branch to branch of bushes and low trees, an exercise in which they display remarkable activity. Some species, like the Woodpeckers, climb on the trunks of trees in pursuit of insects; and, it would appear, from their restless habits and almost constant motion, that their limited excursions are entirely attributable to the want of more ample provision for flight. The Antcatchers are never found in settled districts, where their favorite insects are generally less abundant; but they live in the dense and remote parts of forests, far from the abodes of man and civilization. They also dislike open and wet countries.

The note of the Antcatchers is as various as the species are different, but it is always very remarkable and peculiar. Their flesh is oily and disagreeable to the taste; and, when the bird is opened, a very offensive odor is diffused, from the remains of half-digested ants and other insects, contained in the stomach.

The plumage of the Antcatchers very probably undergoes considerable changes in color. The size of the sexes is different, the female being much larger than the male. Such variations may have induced natural-

ists to consider many as species, that really do not exist, as such, in nature.

The nest of these birds is hemispherical, varying in magnitude according to the size of the species, composed of dried grass, rudely interwoven; it is fixed to small trees, or attached by each side to a branch, at the distance of two or three feet from the ground. The eggs are nearly round, and three or four in number.

The discovery of any species of this genus in the old world is quite recent, and it had previously been believed that the genus was peculiar to South America; and though the existence of ant-destroying birds was suspected in other tropical regions, they were supposed to be generically distinct from those of the corresponding parts of America, as was known to be the fact in the case of the ant-eating quadrupeds. This opinion was founded on the admitted axiom, that nature always varies her groups in remote tropical regions having no communication with each other. The reverse, however, is the fact in the case of the ant-catching birds, as we find perfect analogies between the species residing in those distant parts of the globe, even throughout the different sections into which the genus may be divided.

The Rocky-Mountain Antcatcher is six inches long. The bill, measured from the corner of the mouth, is more than one inch in length, being slightly curved almost from the base; it is very slender, being nearly two-eighths of an inch in diameter at the base, and only the sixteenth of an inch in the middle, whence it continues to diminish to the tip; and is of a dark horn color, paler beneath. The feet are dusky; and the length of the tarsus is seven-eighths of an inch. The irides are dark brown; the whole plumage above is of a dusky brownish, slightly undulated with pale, tinted with dull ferruginous on the top of the head and superior portions of the back. The sides of the head are dull whitish, with a broad brown line passing through the eye to the commencement of the neck. The chin, throat, and breast are whitish, each feather being marked by a longitudinal line of light brown. The belly is white; and the flanks are slightly tinged with ferruginous. The primaries are entirely destitute of undulations or spots; the tail coverts are pale, each with four or five fuscous bands; the inferior tail coverts are white, each being bifasciate with blackish brown. The tail is nearly two inches long, rounded, broadly tipped with ferruginous yellow, and having a narrow black band before the tip; the remaining part of the tail is of the same color with the wings, and is obsoletely banded, these bands being more distinct on the two middle feathers, which are destitute of the black and yellowish termination; the exterior feather is dusky at tip, marked by four yellowish-white spots on the exterior, and by two larger ones on the inner web.

The specimen of the Rocky-Mountain Antcatcher we are describing

is a male, shot in the month of July, and possibly not adult; as it is the only one brought by Major Long's party, we cannot determine the extent or nature of the variations the species may undergo from age, sex, or season.

The note of this bird is peculiar, resembling the harsh voice of the Terns. It inhabits the sterile country bordering on the river Arkansas, in the neighborhood of the Rocky Mountains, where it is frequently observed hopping on the ground, or flitting among the branches and weather-beaten, half-reclining trunks of a species of Juniper; when it flies among the crooked limbs of this tree it spreads its tail considerably, but was never seen to climb. They were generally observed in small associations of five or six individuals, perhaps composing single families.

SYLVIA CHRYSOPTERA.

FEMALE GOLDEN-WINGED WARBLER.*

[Plate I. Fig. 3.]

Motacilla chrysoptera, LINN. *Syst.* i., p. 333, Sp. 20. GMEL. *Syst.* i., p. 971, Sp. 20, Male.—*Sylvia chrysoptera*, LATH. *Ind.* p. 541, Sp. 123. VIEILL. *Ois. de l'Am. Sept.* II., p. 37, pl. 97, Male.—*Motacilla flavifrons*, GMEL. *Syst.* i., p. 976, Sp. 126, Male.—*Sylvia flavifrons*, LATH. *Ind.* p. 527, Sp. 69, Male.—*Ficedula Pensylvanica cinerea gutture nigro*, BRISSON, *Av. Suppl.* p. 109, Sp. 80, Male.—*Figuier aux ailes dorées*, BUFF. *Ois.* v., p. 311, Male.—*Golden-winged Flycatcher*, EDWARDS, *Glean.* II., 189, pl. 299, Male.—*Gold-winged Warbler*, PENN. *Arct. Zool.* Sp. 295. LATH. *Syn.* II., Part II., p. 492, Sp. 118, Male.—*Yellow-fronted Warbler*, PENN. *Arct. Zool.* Sp. 296. LATH. *Syn.* II., Part II., p. 461, Sp. 67, Male.—*Parus alis aureis*, the *Golden-winged Flycatcher*, BARTRAM, *Trav.* p. 292, Male.

THE female of this pretty little Warbler, hitherto unknown to any naturalist, is now figured and described for the first time. For the opportunity of presenting it to the reader, we are indebted to Mr. Titian Peale, who shot it on the twenty-fourth of May, near Camden, New Jersey; and, with his usual kindness, and zeal for Natural History, communicated it to us for this work.

This little Warbler differs so materially from its mate, as to require a distinct figure and description, in order to be recognised; yet we cannot fail to perceive a kind of family resemblance between the sexes; and, by comparing the two descriptions and accompanying figures, our readers will agree with us that they are but one and the same species, in a different garniture of plumage. The distribution of markings is

* See WILSON'S *American Ornithology*, II., p. 182, pl. 15, fig. 5, for the Male.

really similar in both sexes; but in the female the colors are paler, and green prevails on those parts which, in the male, are of a dark slate color.

The female of the Golden-winged Warbler is four and a half inches long. The bill is blackish, straight, entire, rounded, and gradually tapering to a sharp point. The feet are brownish-ash; the irides dark-brown. The front is golden-yellow, the top of the head bright olive-yellow; the back of the head, and superior parts of the neck and body, are of a pale plumbeous hue, the feathers being tipped with yellow-olive, more particularly on the rump; the superior tail coverts are pure pale plumbeous. A wide slate-colored stripe passes through the eye from the bill and dilates on the cheeks; this is margined by a white line above the eye, and by a wider one on each side of the throat. The throat is of a pale slate-color, becoming still paler on the breast. The remaining under parts are whitish, occasionally tinged with yellow, and with slate-color on the flanks. The wings are of the same color as the back, but somewhat darker, and are crossed by two wide bands of bright yellow, formed by the tips of the first and second rows of wing coverts. The primaries are dusky, margined on the exterior web with pale, and on the inner broadly with white. The secondaries are broadly margined with yellow-olive on the outer web, and with white on the inner web. The tail is nearly even at tip, of a dusky plumbeous color; the three lateral feathers have a large pure white spot on the inner web.

This last essential character also exists in the male, though Wilson has not mentioned it. As to the manners and habits of the species, he has given us no information, except that it is rare, and remains only a few days in Pennsylvania. He says nothing of the female, and Vieillot never saw it.

We regret that we are unacquainted with the form of its nest, and the peculiarity of its song. We can only state that, during its short stay in Pennsylvania, it is solitary and silent, gleaning amongst the branches of trees, and creeping much after the manner of the Titmouse, with its head frequently downwards, in pursuit of larvæ and insects, which constitute exclusively the food of this species.

Wilson was impressed with the opinion that the shape of the bill would justify the formation of a distinct sub-genus, which would include this bird, the *Sylvia vermivora*, and some other species. In this opinion Cuvier has coincided, by forming his sub-genus *Dacnis*, which he places under his extensive genus *Cassicus*, remarking that they form the passage to *Motacilla*. This sub-genus we shall adopt, but we differ from Cuvier by arranging it under *Sylvia*; it will then form the transition to the more slender-billed *Icteri*. Temminck and Vieillot have arranged them also under *Sylvia*; the latter author, in the (French) New Dictionary of Natural History, gives them the name of Pitpits; and it is most

probably from want of examination, that he has not considered the present bird as belonging to that section.

MUSCICAPA FORFICATA.

SWALLOW-TAILED FLYCATCHER.

[Plate II. Fig. 1.]

Muscicapa forficata, GMEL. *Syst.* I., p. 931, Sp. 22.—LATH. *Ind.* p. 485, Sp. 70.—VIEILL. *Ois. de l'Am. Sept.* I., p. 71.—STEPHENS, *Cont. of SHAW'S Zool.* XX., p. 413, Pl. 3. *Tyrannus forficatus*, SAY, in *Long's Expedition to the Rocky Mountains*, II., p. 224.—*Moucherolle à queue fourchue de Mexique*, BUFF. *Ois.* IV., p. 564.—*Gobe-mouche à queue fourchue de Mexique*, BUFF. *Pl. Enl.* 667.—*Swallow-tailed Flycatcher*, LATH. *Syn.* II., Part. I., p. 356, Sp. 60.

THIS rare and beautiful bird is, I believe, now figured from nature for the second time; and, as the plate given by Buffon conveys but an imperfect idea of its characters, the representation in the accompanying engraving will certainly prove the more accessible to naturalists. That author had the merit of publishing the first account of this species; and the individual he described, was received from that part of Louisiana which borders on Mexico. Neither Latham, Gmelin, nor Vieillot, seem to have had an opportunity of examining this bird, as they have evidently drawn on Buffon for what they have said relative to it. Hence it appears, that the Swallow-tailed Flycatcher has never been obtained from the time of Buffon to the period of Major Long's expedition to the unexplored region it inhabits. The specimen before us, which is a fine adult male, was shot by Mr. Titian Peale, on the twenty-fourth of August, on the Canadian fork of the Arkansas river.

Although this bird is very different from the Fork-tailed Flycatcher, yet on account of the form of the tail, and the similarity of the common name, they are apt to be mistaken for each other; and, when both are immature, some caution is required to avoid referring them to the same species. Notwithstanding this similarity, some authors have placed the Fork-tailed Flycatcher in their genus *Tyrannus*, and the present bird in *Muscicapa*; whereas, from an inspection of the bills, it will at once be seen, that the latter would be still more properly placed in their genus *Tyrannus*, as the form of its bill is exactly the same with that of the King-bird, the type of the sub-genus.

The Swallow-tailed Flycatcher, when in full plumage, is eleven inches long. The bill and feet are blackish; the irides are brown (red according to authors). The upper part of the head and neck is of a

light gray; the back and scapulars are dark cinereous, tinged with reddish-brown; the rump is of the same color, but strongly tinged with black, and the superior tail coverts are deep black; the under part of the body is milk-white, the flanks being tinged with red; the inferior tail coverts are pale rosaceous; the wings are brownish-black; the upper coverts and secondaries being margined externally, and at tip, with dull whitish; the under wing coverts are whitish rosaceous; the axillary feathers, above and beneath, are of a vivid scarlet color. The tail is greatly elongated and excessively forked; it is of a deep velvet-black color, each feather having the terminal margin of a dull whitish tint, and the shafts white at their bases. The three exterior feathers on each side, are of a delicate pale rosaceous color, on a considerable part of their length from the base. The external one is five inches and a half long; the second and third gradually decrease in length, but the fourth is disproportionately shorter, and from this feather there is again a gradual decrease to the sixth, which is little more than two inches long.

The female of the Swallow-tailed Flycatcher is probably very similar to the male; but the colors of the young bird are much less vivid, and the exterior tail feathers are much shorter than those of the adult.

The Swallow-tailed Flycatcher is as audacious as the King-bird, attacking with unhesitating intrepidity, and turning the flight of the most powerful of the feathered tribe. Its note consists of a chirping, sounding like *tseh, tseh*, much resembling that of the Prairie Dog (*Arctomys ludoviciana*, Ord), by which it deceived the members of Long's party into a belief that they were approaching one of the villages of this animal.

"A note, like that of the Prairie Dog (writes Say), for a moment induced the belief that a village of the Marmot was near; but we were soon undeceived, by the appearance of the beautiful *Tyrannus forficatus*, in full pursuit of a Crow. Not at first view recognising the bird, the fine elongated tail plumes occasionally diverging in a furcate manner, and again closing together, to give direction to the aerial evolutions of the bird, seemed like extraneous processes of dried grass, or twigs of a tree, adventitiously attached to the tail, and influenced by currents of wind. The feathered warrior flew forward to a tree, whence, at our too near approach, he descended to the earth, at a little distance, continuing at intervals his chirping note. This bird seems to be rather rare in this region; and, as the very powder within the barrels of our guns was wet, we were obliged to content ourselves with only a distant view of it."

The range of the Swallow-tailed Flycatcher appears to be limited to the trans-Mississippian territories, lying on the south-western frontier

of the United States, more especially frequenting the scanty forests, which, with many partial, and often total interruptions, extend along the Arkansas, Canadian, and Platte rivers, where, in some districts, they do not seem to be very uncommon.

MUSCICAPA VERTICALIS.

ARKANSAS FLYCATCHER.

[Plate II. Fig. 2.]

Tyrannus verticalis, SAY, in *Long's Expedition to the Rocky Mountains*, II., p. 60.

THIS bird, brought from the Rocky Mountains by Major Long's exploring party, is so closely allied to many imperfectly described species of the extensive genus to which it belongs, that ornithologists, at first sight, may very reasonably doubt its pretensions to rank as a new species. But, notwithstanding any doubt that may be produced by its similarity to others, it is certainly an addition to the already numerous catalogue of Flycatchers.

The total length of the Arkansas Flycatcher is eight inches. The bill is similar to that of the Crested Flycatcher, but is more rounded above, and more abruptly inflected at tip, being of a blackish color, as well as the feet. The head above, and nucha, are pure pale plumbeous; the crown has a restricted bright orange spot in the middle, invisible when the feathers are at rest; there is a dusky spot between the bill and eyes. The cervix and back are pale plumbeous, tinged with olivaceous, and deepening on the rump almost to blackish, which is the color of the superior tail coverts. The chin is whitish; the throat and upper part of the breast are of the same color as the head, but paler; the remaining under surface, including the inferior wing and tail coverts, is yellow. The wings are brown, the secondaries being margined exteriorly with whitish; the inner webs of the primaries are whitish towards the base, and near the tips they are narrowed; the first is remarkably so, being almost falciform. The tail is of a deep brown-black color, and very slightly emarginated; the exterior feather is white on the outer web, the shaft being white on the exterior half, and brown on the interior.

Say first described and named this bird in the second volume of the work above quoted; and he remarks that it is allied to the *Tyrannus griseus* and *Tyrannus sulphuratus* of Vieillot. There are many species for which the Arkansas Flycatcher might more readily be mistaken;

of these, we may mention the Crested Flycatcher (*Muscicapa crinita*), so well described and figured by Wilson in his second volume; and particularly the *Muscicapa ferox** of Gmelin, a South American bird, the description of which agrees so well with the species we are now considering, that it might be equally applied to either. Our bird differs from the two latter by that striking character, the white exterior web of the outer tail-feather. From the *crinita* it may, more especially, be known by the spot on the crown, which does not exist in that species: by not having the tail and wing feathers rufous in any part; and by having the primaries narrowed at tip, while the *crinita* has them quite large, entire and rounded. On a particular comparison with the *ferox*, we shall perceive that the bill of that bird is flattened, broad, and carinate, whilst in the *verticalis* it is almost rounded above. The general color of the latter is, besides, much paler, and the tail is less deeply emarginated.

The Arkansas Flycatcher appears to inhabit all the region extending west of the Missouri river. The specimen we have been describing is a male, killed in the beginning of July, on the river Platte, a few days' march from the mountains.

MUSCICAPA SAYA.

SAY'S FLYCATCHER.

[Plate II. Fig. 3.]

WE now introduce into the Fauna of the United States a species which is either a nondescript, or one that has been improperly named; and I dedicate it to my friend Thomas Say, a naturalist, of whom America may justly be proud, and whose talents and knowledge are only equalled by his modesty. The specimen now before us is a male, shot by Mr. T. Peale, on the 17th of July, near the Arkansas river, about twenty miles from the Rocky Mountains.

We cannot be perfectly sure that this Flycatcher has not heretofore been noticed, since we find in the books, two short and unessential descriptions which might be supposed to indicate it. One of these is the

* This bird had been incorrectly considered by Vieillot, in his Natural History of North American Birds, as identical with the *Muscicapa crinita*; but, afterwards perceiving it to be a distinct species, he named it *Tyrannus ferox*. A specimen was in the Philadelphia Museum, designated by the fanciful name of Ruby-crowned Flycatcher (with this Say compared his *Tyrannus verticalis*, before he stated it to be new), and, in the New York Museum, three specimens are exhibited, with the erroneous title of Whiskered Flycatcher (*Muscicapa barbata*).

Muscicapa obscura of Latham (Dusky Flycatcher of his Synopsis), from the Sandwich Islands; but, besides the difference of the tail feathers, described as acute in that bird, the locality decides against its identity with ours. The other description is that of a bird from Cayenne, the *Muscicapa obscura* of Vieillot,* given by that author as very distinct from Latham's, although he has applied the same name to it, no doubt inadvertently. This may possibly be our bird; but, even in this case, the name we have chosen will necessarily be retained, as that of *obscura* attaches to Latham's species by the right of priority.

This Flycatcher strongly resembles the common Pewee (*Muscicapa fusca*), but differs from that familiar bird by the very remarkable form of the bill; by the color of the plumage, which verges above on cinnamon-brown instead of greenish, and beneath is cinereous and rufous instead of yellowish-ochreous; and by the proportional length of the primary feathers, the first being longer than the sixth in our bird, whereas it is shorter in the Pewee.

The total length of Say's Flycatcher is seven inches. The bill is long, straight, and remarkably flattened; the upper mandible is blackish, and but very slightly emarginated; the lower mandible is much dilated, and pale horn color on the disc. The feet are blackish; the irides are brown. The general color of the whole upper parts is dull cinnamon-brown, darker on the head; the plumage at base is of a lead color. The throat and breast are of the same dull cinnamon tint, gradually passing into pale rufous towards the belly, which is entirely of the latter color; the under wing coverts are white, slightly tinged with rufous. The primaries are dusky, tinged with cinnamon, and having brown shafts; they are considerably paler beneath. The first primary is a quarter of an inch shorter than the second, which is nearly as long as the third; the third is longest; the fourth and fifth gradually decrease, and the sixth is decidedly shorter than the first. The tail is hardly emarginated, and of a blackish-brown color.

We know nothing of the habits of this Flycatcher, except what has been communicated by Mr. T. Peale, from his manuscript notes. The bird had a nest in July, the time when it was obtained; its voice is somewhat different from that of the Pewee, and first called attention to its nest, which was built on a tree, and consisted chiefly of moss and clay, with a few blades of dried grass occasionally interwoven. The young birds were, at that season, just ready to fly.

* Nouv. Dict. d'Hist. Nat. xxi., p. 451.

REGULUS CRISTATUS.

FEMALE GOLDEN-CROWNED GOLD-CREST.*

[Plate II. Fig. 4.]

Motacilla regulus, LINN. *Syst.* I., p. 338, Sp. 48. GMEL. *Syst.* I., p. 995, Sp. 48.—*Sylvia regulus*, LATH. *Ind.* p. 548, Sp. 152. TEMM. *Man. d'Orn.* p. 229. RANZANI, *Elém. di Zool.* III., Part v., p. 105, Pl. 16, fig. 3.—*Regulus cristatus*, RAY, *Syn.* p. 79, Sp. 9. ALDR. *Orn.* II., p. 649. WILL. *Orn.* p. 163, Pl. 42. VIEILL. *Nouv. Dict. d'Hist. Nat.* XXIX., p. 420.—*Regulus vulgaris*, STEPHENS, *Cont. of SHAW'S Zool.* XX. p. 758, Pl. 59.—*Parus calendula*, *Regulus cristatus vulgo Dicta*, BRISS. *Av.* III., p. 579, Sp. 17.—*Le Roitelet*, GERARDIN, *Tabl. Elem. d'Orn.* I., p. 318, Sp. 26, Pl. 15, (not of BUFF. *Ois.* V., p. 363, Pl. 16, fig. 2, nor *Pl. Enl.* 651, fig. 3, which represent *Sylvia ignicapilla* of BREHM.)—*Regolo*, *Storia degli uccelli*, IV. Pl. 390.—*Gold-crested Wren*, LATH. *Syn.*, II., Part II., p. 508, Sp. 145. PENN. *Brit. Zool.* Sp. 153. PENN. *Arct. Zool.* Sp. 321.—*Golden-crowned Wren*, EDW. *Glean.* v., p. 95, Pl. 254, lower fig. Male.

Two distinct species of Gold-crest have been, until lately, considered by naturalists as but one. Are they both inhabitants of this continent; and, if not, which is the American species? These questions cannot be readily answered, since we have nothing better than negative evidence to offer relative to the first. The present female, however, is decisive as to which of them inhabits this country, and we have therefore concluded, that the faithful representation in the accompanying plate will be acceptable to ornithologists. A slight inspection of this specimen leaves no doubt as to its being the female of the *Regulus cristatus*; and, should the *Regulus ignicapillus*, contrary to our expectations, also prove to be an inhabitant of this country, it will appear, along with its mate, in another volume of this work. All the ornithologists state, that the latter is a native of this continent, whilst they take no notice whatever of the *Regulus cristatus*, which, if not the only indigenous, is certainly the more common species. This error seems to have originated with Vieillot, who, considering the two species as but one, probably was not careful in selecting the individual from which his drawing was made; he may, therefore, have chosen an European bird, and unluckily of the other species, as both are found in Europe.

However this may be, his figure is certainly that of the *ignicapillus*; and, it is equally obvious, that his short description of the female can only apply to the female of the *cristatus*, which corroborates my opinion. In the (French) New Dictionary of Natural History, Vieillot distin-

* See Wilson's *American Ornithology*, II., p. 169, Pl. 8, fig. 2, for the Male.

guishes two varieties of *Regulus cristatus*, and again describes the *ignicapillus* as the one he saw in America. If this observation could be relied upon, we should admit that both species are inhabitants of this country, although the present, which must be by far the most numerous, is certainly not the *ignicapillus*.

I agree with Ray, Vieillot, and other authors, and dissent from Linné, Latham, Wilson, and Temminck, respecting the propriety of placing these birds in a separate genus from *Sylvia*, and I have therefore changed the generic name adopted by Wilson. This genus forms a link intermediate to the genera *Sylvia* and *Parus*. It is small both in the number and size of its species, consisting of the two smallest of the European birds, one of which is the subject of this article; an American species, the Ruby-crowned Gold-crest (*Regulus calendulus*), so well figured and described by Wilson; and a fourth from Asia.

The most obvious characters that distinguish the genus *Regulus* from *Sylvia* are, the bill remarkably slender throughout, and two small decomposed feathers, directed forwards so as to cover the nostrils.

The habits of the Gold-crests resemble, in many respects, those of the Titmouse. They delight in cold weather, and then often perch on evergreen trees. They display great activity and agility in search of their food, being almost constantly in motion, hopping from branch to branch, or climbing on trees, frequently with the head downwards, searching the chinks of the bark for their prey. These little birds commonly feed on the smallest insects, which they catch adroitly while on the wing; in the winter they seek them in their retreats, where they lie torpid or dead. They are also very expert at finding larvæ and all sorts of small worms, of which they are so fond as to gorge themselves exceedingly. During summer, they occasionally eat little berries and small grains. In autumn they are fat, and fit for the table, notwithstanding their very diminutive size. The species we are describing is found in great quantities in the neighborhood of Nuremberg, in Germany, and sold in the markets of that city, where they command a high price.

Wilson, in his account of the present species, observes, that "the very accurate description given by the Count de Buffon, agrees, in every respect, with ours." Notwithstanding this observation, Buffon's plate and description designate the *ignicapillus* beyond the possibility of doubt; whilst those of Wilson are intended for the *cristatus*.

This statement of Wilson, joined to the testimony of Vieillot, would have led us to believe the *ignicapillus* to be an American bird, if Wilson's plate, and more especially his description, as well as the inspection of the very individual he delineated, and a hundred others, had not confirmed our own belief. It may, however, be considered extraordinary, that so diminutive a being should extend its range so widely as to

participate equally in the bounties of two continents; and that another, so closely allied to it as to be generally mistaken for a mere variety, should be limited in its wanderings by the boundaries of but one.

That the reader may be assured of the specific difference between these two birds, I add a short comparative description. The *Regulus cristatus* has the bill very feeble, and quite subulate; whilst that of the *ignicapillus* is also subulate, but is wider at base. The cheeks of the former are pure cinereous, without any white lines, having only a single blackish one through the eye; those of the latter, in addition to the black line through the eye, have a pure white one above, and another below, whence Temminck calls it *Roitelet triple bandeau*. The English name also may be derived from this character, or the bird may rather be called Fire-crowned Gold-crest, from its Latin name. The crest of the male Golden-crowned Gold-crest is yellowish-orange, that of the Fire-crowned is of the most vivid orange; but, the most obvious difference is between the females, that of the Golden-crowned having a lemon-yellow crest, which, in the female of its congener, is orange, like that of the male, only much less vivid. The cheek bands of the female Fire-crowned are by no means so obvious as in its mate; thus the female of this species resembles the male Golden-crowned, than which the colors of its crest are not less brilliant. If, to these traits, we add, that the latter is a little larger, we shall complete the enumeration of their differences.

The two species are also somewhat distinguished by their manner of living. The Golden-crowned Gold-crest associates in small bands, consisting of a whole family, whilst the Fire-crowned is only observed in pairs. The latter is more shy, and frequents the tops of the highest trees, whereas the former is more generally observed amongst low branches and bushes; the voice of the Fire-crowned Gold-crest is also stronger. Their nests, however, are both of the same admirable construction, having the entrance on the upper part; but the eggs are different in color, and those of the Fire-crowned are fewer in number.

The female Golden-crowned Gold-crest is three inches and three-quarters long, and six in extent. The bill is black; the feet dusky; the toes and nails wax color; the irides are dark brown. The frontlet is dull whitish-gray, extending in a line over and beyond the eye; above this is a wide black line, confluent on the front, enclosing on the crown a wide longitudinal space of lemon-yellow, erectile, slender feathers, with disunited webs; a dusky line passes through the eye, beneath which is a cinereous line, margined below by a narrow dusky one. The cervix and upper part of the body are dull olive green, tinged with yellowish on the rump. The whole inferior surface is whitish; the feathers, like those of the superior surface, being blackish-plumbeous at base. The lesser and middling wing coverts are dusky, margined with

olive-green, and tipped with whitish; the greater coverts are dusky, the outer ones immaculate, the inner ones have white tips, which form a band on the wings. The inferior wing coverts, and all the under surface of the wings, are more or less whitish-gray; the primaries are dusky, with a narrow greenish-yellow outer margin, wider at base, and attenuated to the tip, where it is obsolete. The secondaries are dusky; on the outer web they are whitish near the base, then black, then with a greenish-yellow margin extending nearly to the tip; the margin of the inner web is white; the secondaries nearest to the body are, moreover, whitish on the terminal margin. The tail is emarginated; the feathers are dusky olive-green on the margin of the outer web; the inner margins, with the exception of the two middle ones, are whitish.

Until their first moult, the young of both sexes are much like the adult female, except in being destitute of the yellow spot on the crest, which is greenish-olive. In this state, however, they are not seen here, as they breed farther to the north, and moult before their arrival in the autumn.

ICTERUS ICTEROCEPHALUS.

YELLOW-HEADED TROOPIAL.

[Plate III. Fig. 1, Male; 2, Female.]

Oriolus Icterocephalus, LINN. *Syst.* I., p. 163, Sp. 16. GMEL. *Syst.* I., p. 392, Sp. 16. LATH. *Ind.* p. 183, Sp. 32, Male.—*Icterus Icterocephalus*, DAUDIN, *Orn.* II., p. 337, Sp. 9, Male.—*Pendulinus Icterocephalus*, VIEILL. *Nouv. Dict. d'Hist. Nat.* V., p. 317, Male.—*Icterus Xanthornus Icterocephalus Cayanensis*, BRISS. *Av.* II., p. 124, Sp. 27, Pl. 12, fig. 4, Male.—*Cornix atra*; *capite, collo, pectoreque flavis*, KOELREUTER, *Nov. Comm. Ac. Sc. Petrop.* XI., p. 435, Pl. 15, fig. 7, Male.—*Les Coiffes jaunes*, BUFF. *Ois.* III., p. 250, Male.—*Carouge de Cayenne*, BUFF. *Pl. Enl.* 343, Male.—*Yellow-headed Starling*, EDWARDS, *Glean.* III., p. 241, Pl. 323, Male.—*Yellow-headed Oriole*, LATH. *Syn.* I., Part II., p. 441, Sp. 30, Male.

ALTHOUGH this species has long been known to naturalists as an inhabitant of South America, and its name introduced into all their works, yet they have given us no other information concerning it than that it is black, with a yellow head and neck. It was added to the Fauna of the United States by the expedition of Major Long to the Rocky Mountains.

The female has been hitherto entirely unknown, and all the figures yet given of the male being extremely imperfect, from the circumstance of their having been drawn from wretchedly stuffed specimens, we may safely state, that this sex also is, for the first time, represented with a due degree of accuracy in our plate. The figures published by Edwards

and Buffon approach the nearest to the real magnitude; but they are mere masses of black, surmounted by a yellow cap; those of Brisson and others, are considerably smaller.

As that striking character, the white spot on the wing, is neither indicated in the figure nor description of any author, we might have been induced to believe that our species is different from the South American, if a close comparison of the two had not proved their identity. Another circumstance might have been equally deceptive: Brisson, who gave the first account of this bird, from a Cayenne specimen sent to Réaumur's Museum, and who seems to have been copied by all subsequent authors, states its length to be less than seven inches, a size considerably inferior to that of the living bird. Had this admeasurement been taken from a recent specimen, we could hardly hesitate to believe our bird distinct; but as he had only a dried skin, and as Buffon's figure represents a nearer approach to the size of nature, we conclude that Brisson's estimate is not to be implicitly relied upon. Vieillot, who never saw the bird, states the length to be six inches and a half, and refers it to his genus *Pendulinus*, but it certainly belongs to his genus *Agelaius*.

The male Yellow-headed Troopial is ten inches and a half long. The bill is dark horn color, and formed exactly like that of the Red-winged Troopial. The feet are black; the irides dark brown. The whole head, neck, and breast, are brilliant orange-yellow, more vivid and sericeous on the head, and terminating in a point on the belly; the feathers around the base of the bill, the chin, and a wide stripe passing from the bill through the eye, are black. The remaining parts, excepting some feathers of the belly, and some of the under tail coverts, which are yellow at base, are glossy black, very slightly tinged with brownish. Some of the exterior wing coverts are pure white with black tips, constituting two very remarkable white spots on the wing, the larger of which is formed by the greater coverts of the primaries, and the smaller one by the middling coverts. The first, second, and third primaries, are longest and equal. The tail is four inches long, slightly rounded, the two middle feathers being somewhat shorter than those immediately adjoining. This character Wilson remarked in the Red-winged Troopial; and, as other notable traits are common to both species, we must regard them, not only as congeneric, but as very closely allied species of the same sub-genus. They differ, however, in color, and the Yellow-headed Troopial is larger, having the bill, feet, and claws consequently stronger, and the first primary longer than the second and third, or at least as long; whereas, in the Red-winged, the third is the longest.

The female of our Troopial is eight inches and a quarter long, a size remarkably inferior to that of the male, and exactly corresponding with the difference existing between the sexes of the Red-winged Troopial. The bill and feet are proportionally smaller than those of the male, the

feet being blackish; the irides are dark brown. The general color is uniform dark brown, a shade lighter on the margin of each feather. The frontlet is grayish-ferruginous, as well as a line over the eye confluent on the auricles with a broad line of the same color passing beneath the eye, including a blackish space varied with grayish. An abbreviated blackish line proceeds from each side of the lower mandible; the chin and throat are whitish; on the breast is a large rounded patch, of a pretty vivid yellow, occupying nearly all its surface, and extending a little on the neck. On the lower part of the breast, and beginning of the belly, the feathers are skirted with white. The form of the wings and tail is the same as in the male; the wings are immaculate.

The young of this species are very similar to the female, the young male gradually changing to the rich adult covering.

The Yellow-headed Troopials assemble in dense flocks, which, in all their varied movements and evolutions, present appearances similar to those of the Red-winged, which have been so well described by Wilson. They are much on the ground, like the Cow Troopial (Cow Bunting of Wilson); on dissection, their stomachs have been found filled with fragments of small insects, which seem to constitute their chief food, though doubtless they also feed on vegetable substances. Their notes resemble those of the Red-winged Troopial, but are more musical. The range of the Yellow-headed Troopial is very extensive, as it is found from Cayenne to the river Missouri; although it passes far north in the western region, yet it does not visit the settled parts of the United States.

The fine specimens represented in our plate were killed near the Pawnee villages, on the river Platte, where they were seen in great numbers about the middle of May. The males and females were sometimes observed in separate flocks.

We adopt the genus *Icterus*, nearly as it was established by Brisson, and accepted by Daudin and Temminck. Authors have variously estimated this genus both in regard to its denomination and limits. One of Wilson's most important nomenclatural errors, consisted in placing one of the species under the genus *Sturnus*, with which it has but little similarity, if we except some of its habits, and particularly its gregarious disposition. Linné considered these birds as *Orioli*, in which he was followed by Gmelin and Latham, notwithstanding the remarkable difference existing between them and the *Oriolus galbula* of Europe, the type of that genus. Illiger, and some other naturalists, considering that bird a *Coraci*, appropriated the name of *Oriolus* to our *Icterus*, and separated from it the largest species, which he called *Cassici*. Linné had declared all generic names previously given to arts, diseases, &c., to be inadmissible in natural history; Illiger, on that principle, altogether rejected the name *Icterus*, as being preoccupied by a disease.

This may account for the introduction of new names for genera, one of which at least ought to have retained its first appellation. Vieillot, however, would have caused less confusion, if he had adopted the name of *Icterus* (which, with *Saxicola*, and all other names of that class, we do not think objectionable), instead of *Agelaius*, *Pendulinus*, or *Yphantes*, three of his four genera corresponding to our *Icterus*. But, if the latter name was considered as utterly inadmissible, we see no reason why he did not accept that of *Xanthornus*, applied to this genus by Pallas.

All the species of Troopial are peculiar to America. We divide them into four sub-genera, the present bird belonging to the second, to which we apply the name of *Xanthornus*. The species of this sub-genus are peculiarly social in their dispositions, and their associations are not liable to interruption from the influence of love itself. Not only do many individuals of the same family combine and labor in concert, but they also unite with very different species. Their aspect is animated, and their movements are quick, bold, and vigorous; they fly rapidly, at a good height, and are much attached to the places of their birth. Their song is a kind of whistling; they walk with the body nearly erect, with a slightly hurried step, and are seen sitting on the ground, or perched on the branches of trees. They seek no concealment, and never enter the woods, though they are very careful to construct their nests in a safe situation. The Troopials eat no fruits, but derive their subsistence from insects, worms, grains, and small seeds. They leave the temperate climates at the approach of winter, and are amongst the first birds of passage that return with the spring.

*SYLVIA MARITIMA.**

FEMALE CAPE MAY WARBLER.

[Plate III. Fig. 3.]

I WAS so fortunate as to obtain this undescribed little Warbler in a small wood near Bordentown, New Jersey, on the fourteenth of May, at which season ornithologists would do well to be on the alert to detect the passenger Warblers, whose stay in this vicinity is frequently limited to a very few days.

Judging by the analogical rules of our science, this bird is no other than the female of Wilson's Cape May Warbler. Its appearance is so different from the male he described, that the specific identity is not

* See Wilson's *American Ornithology*, II., p. 209, Pl. 54, fig. 3, for the Male.

recognised at first sight ; but, by carefully comparing the two specimens, a correspondence in the least variable characters may readily be perceived, especially in the remarkable slenderness of the bill, which distinguishes the Cape May, from all other resembling species of North American Warblers.

Wilson has given no information relative to the history and habits of this species, having never procured more than a male specimen ; and we have equally to regret, that, having obtained but a single female, we are unable to supply the deficiency, even in regard to its song.

The female Cape May Warbler is four inches and three quarters long, and more than eight in extent. The bill is slender, delicate, and slightly curved, being black, as well as the feet. The irides are dark brown ; the upper part of the head olive-cinereous, each feather having a small blackish spot on the middle. A yellow line extends from the bill over the eye, and is prolonged in an obsolete trace around the auditory region, thence returning to the corner of the mouth. A blackish line passes through the eye which is circumscribed by a whitish circle ; the cheeks are dull cinereous, with very small pale spots ; the upper parts of the neck and of the body are olive-cinereous, tinged with more cinereous on the neck, and with yellow-olive on the rump. The chin is whitish ; the throat, breast, and flanks are whitish, slightly tinged with yellowish, each feather having a blackish spot on the middle ; the belly is immaculate ; the vent and inferior tail coverts are shaded in the middle of each feather with dusky. The smaller wing coverts are dull olive-green, blackish in the centre ; the middling wing coverts are black, margined exteriorly, and tipped with pure white ; the greater wing coverts are blackish, margined with olive-white ; the primaries are dusky, finely edged with bright olive-green on the exterior web, obsolete on that of the first primary, which is of the same length as the fourth ; the second and third are longest, and but little longer than the fourth. The tail is slightly emarginated, the feathers being dusky, edged with bright olive-green on the exterior side, and with white on the interior ; the two or three exterior feathers on each side have a pure white spot on their inner webs near the tip.

The female Cape May Warbler may be very easily mistaken for an imperfect *Sylvia coronata*, of which four or five nominal species have already been made. The striking resemblance it bears to the young, and to the autumnal condition of the plumage in that species, requires a few comparative observations to prevent their being confounded together.

The present bird is smaller than the *coronata*, with a more slender, and rather more elongated bill ; it is altogether destitute of the yellow spot on the head, as well as of the yellow on the rump, which is a

striking character of the *coronata* in all its states, and gives rise to the English name adopted by Wilson.

The color of the outer edging of the wing and tail feathers is a very good distinctive mark; in the *maritima* it is olive-green, whilst in the *coronata* it is white. The white spot on the inner webs of the exterior tail feathers, is also four times larger in the *coronata*, than in the *maritima*.

QUISCALUS MAJOR.

GREAT CROW BLACKBIRD.

[Plate IV. Fig. 1, Male; 2, Female.]

Quiscalus major, VIEILL. *Nouv. Dict. d'Hist. Nat.* xxviii., p. 487.—*Gracula quiscal*, ORD, *Journ. Acad. Nat. Sc. Philad.* i., p. 253.—*Gracula barita*, WILSON, *Am. Orn.* vi., Index p. viii.—*Gracula quiscal*, the Purple Jackdaw of the sea-coast, BARTRAM, *Travels*, p. 290.—*Corvus mexicanus*? GMEL. *Syst.* i., p. 375, Sp. 42. LATH. *Ind.* p. 164, Sp. 36, Male.—*Corvus zanoë*? GMEL. *Syst.* i., p. 375, Sp. 44. LATH. *Ind.* p. 164, Sp. 37, Female.—*Pica mexicana major*? BRISS. *Av.* ii., p. 43, Sp. 4, male.—*Pica mexicana minor*? BRISS. *Av.* ii., p. 44, Sp. 5, Female.—*L'Hocizana*? BUFF. *Ois.* iii., p. 103, Male.—*Le Zanoë*? BUFF. *Ois.* iii., p. 106, female.—*Mexican Crow*? LATH. *Syn.* i., p. 396, Sp. 34, Male.—*Lesser Mexican Crow*? LATH. *Syn.* i., p. 397, Sp. 36, Female.—*Hocitzanatl, seu magnus Sturnus*? HERNAND. *Hist. An. Nov. Hisp.* p. 21, Male.—*Tzanahoei*? HERNAND. *Hist. An. Nov. Hisp.* p. 22, Female.—*Hoitzanatl*? RAY, *Syn. Av.* p. 162, Male.—*Tzanahoei, seu Pica mexicana Hernandezii*? RAY, *Syn. Av.* p. 162, Female.

No part of natural history has been more confused than that relating to North and South American birds of black plumage; which is by no means surprising, when we recollect that they are chiefly destitute of colored markings, and that the greater number of admitted species, are founded on the short and inexact descriptions of travellers, who have neglected to observe their forms, habits, and characters. But little aid has been derived from the wretched plates hitherto given, for they seem better suited to increase the confusion than to exemplify the descriptions to which they are annexed, and every succeeding compiler has aggravated, rather than diminished this complication of error. It is therefore solely by a studious attention to nature, that we can extricate these species from the uncertainty involving them, and place them in a distinct and cognisable situation. With these views we now give a faithful representation of both sexes of the Great Crow-Blackbird, drawn by that zealous observer of nature and skilful artist Mr. John J. Audubon, and hope thereby to remove all doubt relative to this interesting species.

For the same purpose we give in the following plate a figure of the female Common Crow Blackbird, which differs so little from its mate (admirably represented in the first volume of Wilson's Ornithology), that it would be otherwise unnecessary. This measure we believe will be acceptable to ornithologists, as it furnishes them with means of comparing the females of both the species in question, whence the most striking distinctive characters are obtained; that of one species differing considerably in size and color from the male, while the sexes of the other are very similar in appearance.

Wilson having mentioned this species in his catalogue of land birds, evidently intended to describe and figure it; but this he deferred, probably, in expectation of obtaining better opportunities of examination, which are not so readily presented, as the bird does not inhabit this section of the United States.

It would be difficult to ascertain whether or not Linné and Latham have mentioned this bird in any part of their works, but the reader may perceive our opinion on this point by referring to our synonymes, which, however, are given with much doubt, since we do not hesitate to say, that those authors have not published any satisfactory description of this species.

We shall not endeavor to settle the question relative to the species inhabiting South America, or even Mexico and the West Indies; but we may assert, that this is the only Blackbird found in the United States, besides those of Wilson, which, as is the case with all that his pencil or pen has touched, are established incontestably: he may occasionally have been mistaken as to his genera, or incorrect in a specific name, but by the plate, description, and history, he has always determined his bird so obviously, as to defy criticism, and prevent future mistake.

Mr. Ord has published an excellent paper in the Journal of the Academy of Natural Sciences, proving the existence, in the United States, of two allied species of Crow Blackbird, in which he gives new descriptions, indicates stable characters, and adds an account of their respective habits; but in attempting to correct Wilson, he has unfortunately misapplied the names. In this instance, he should not have charged Wilson with error, who is certainly correct in regard to the species he published; and even had this been doubtful, he who so well described and figured the Common Crow Blackbird, ought to have been followed by ornithologists. Therefore, notwithstanding Mr. Ord's decision, we consider the *quiscala* of Wilson unquestionably the true *quiscala* of authors; this is so obvious, that is unnecessary to adduce any evidence in support of our opinion, which, indeed, is sufficiently afforded by Mr. Ord's paper itself.

It is impossible to decide with certainty, what bird authors intended

to designate by their *Gracula barita*; but after a careful review of the short and unessential indications, respective synonymes, and *habitat* given by different writers, we feel assured that they have not referred to one and the same species. Thus, the *barita* of Linné is a species not found in the United States, but common in the West Indies, called *Icterus niger* by Brisson, and afterwards *Oriolus niger* by Gmelin and Latham: the *barita* of Latham, his Boat-tailed Grakle, is evidently the same with the *quiscala*:* Gmelin's *barita* is taken partly from that of Linné, and partly from the Boat-tailed Grakle of Latham, being compounded from both species: we shall not be at the trouble of deciphering the errors of subsequent compilers.

Ornithologists are all at variance, as to the classification of these species. Linné and Latham improperly referred them to *Gracula*; Daudin, with no better reason, placed them under *Sturnus*; Temminck considers them as *Icteri*, Cuvier as *Cassici*, and Vieillot has formed a new genus for their reception. I have no hesitation in agreeing with the latter author, and adopt his name of *Quiscalus*; but I add to the genus, as constituted by him, the *Gracula ferruginea*, which he regarded as a *Pendulinus*, and which other authors have arranged in several different genera, making of it a profusion of nominal species. Wilson judiciously included that species in the same genus with those above mentioned, although other authors had placed it in *Turdus*, *Oriolus*, &c.

The genus *Quiscalus* is peculiar to America, and is composed of four well ascertained species, three of which are found in the United States: these are, *Quiscalus major*,† *versicolor*, and *ferrugineus*; the fourth, *Quiscalus baritus*, inhabits the West Indies, and probably South America.

The species of this genus are gregarious, and omnivorous; their food being composed of insects, corn, and small grains, thus assisting and plundering the agriculturist at the same time. When the first European settlements were formed in North America, the havoc made by these birds and the Troopials in the grain fields, was so great, that a premium was given for their heads. Their destruction was easily effected, as they are not shy, and are more easily approached as their numbers decrease; but the evil which resulted from exterminating so many of these birds, was as unexpected as irremediable. The corn and pastures were so devoured by worms and insects, that the inhabitants were obliged to spare the birds, in order to avert a scourge which had been previously unknown. As population increases, and a greater quantity

* It was probably by Latham, that Mr. Ord was led to misapply the names of the two species; for, perceiving that the *barita* of that author was the *quiscala*, he inferred, that the *quiscala* was the *barita*.

† We call the present species *Quiscalus major*, agreeably to Vieillot, who certainly intended this bird, although his description is a mere indication.

of grain is cultivated, the ravages of these birds become less perceptible, and the injury they cause comparatively trifling.

The Great Crow Blackbird is more than sixteen inches long, and twenty-two in extent. The bill, from the angle of the mouth, is one inch and three-quarters, and its color, like that of the feet, is black; the roof of the mouth is furnished with a slight osseous carina; the irides are pale yellow. The general appearance of the bird is black; the whole head and neck having bluish-purple reflections; the interscapular region, breast, belly, sides, and smaller wing coverts, are glossy steel-blue; the back, rump, and middling wing coverts, are glossed with copper-green; the vent, inferior tail coverts, and thighs, are plain black. The undescribed parts of the wings are deep black, slightly glossed with green, as well as the tail, which is cuneiform, capable of assuming a boat-shaped appearance, and measures nearly eight inches in length from its insertion, surpassing the tip of the wings by five inches.

The female is considerably shorter, measuring only twelve and a half inches in length, and seventeen inches and a half in extent. The bill, from the angle of the mouth, is one inch and a half long, and, with the feet, is black; the irides are of a still paler yellow than those of the male. The head and neck above are light brown, gradually passing into dusky towards the back, which, with the scapulars and lesser wing coverts, has slight greenish reflections; a whitish line passes from the nostrils over the eye, to the origin of the neck. The chin, throat, and breast, are dull whitish; the anterior part of the breast is slightly tinged with brownish; the flanks are brownish; the belly brownish-white; and the vent and inferior tail coverts are blackish-brown, each feather being margined with pale. The remaining parts are of a dull brownish-black, slightly glossed with greenish; the secondaries, tail coverts, and tail feathers, having a slight banded appearance, which is equally observable in the male.

The young at first resemble the female, but have the irides brown, and the males gradually acquire the brilliant plumage of the adult.

The Great and Common Crow Blackbirds, are both alike distinguished by the very remarkable boat-like form of the tail, but the great difference of size, appearance of the females, length of the tail, prominence of the osseous carina, and brilliancy of coloring, most obviously prove them to be altogether specifically distinct.

The Great Crow Blackbird inhabits the southern part of the Union, where it is called Jackdaw; Georgia and Florida appear to be its favorite residence. The disposition of this species is extremely social, and they frequently mingle with the Common Crow Blackbird; vast flocks are seen among the sea islands and neighboring marshes on the main land, where they feed at low water, on the oyster beds and sand flats.

The chuck of our species is shriller than that of the Common Crow

Blackbird, and it has other notes which resemble the noise made by a watchman's rattle; their song is only heard in the spring, and though the concert they make is somewhat melancholy, it is not altogether disagreeable. Their nests are built in company, on reeds and bushes, in the neighborhood of marshes and ponds: they lay about five eggs, which are whitish, spotted with dark-brown, as represented in the plate.

Mr. Ord mentions in his paper, that the first specimens he saw of this bird, were obtained on the 22d of January at Ossabaw Island, when but a few males were seen scattered over the cotton plantations. Advancing towards the south, they became more numerous; and in the early part of February, the males, unaccompanied by females, were common near the mouth of the river San Juan, in Florida. A few days after, the females appeared, and associated by themselves on the borders of fresh-water ponds; they were very gentle, and allowed themselves to be approached within a few feet, without becoming alarmed. Flocks composed of both sexes were seen about the middle of March.

About the latter end of November, they leave even the warm region of Florida, to seek winter quarters farther south, probably in the West Indies. Previous to their departure, they assemble in very large flocks, and detachments are seen every morning moving southward, flying at a great height. The males appear to migrate later than the females, as not more than one female (easily distinguishable even in the higher regions of the air by its much smaller size) is observed for a hundred males, in the last flocks.

The Great Crow Blackbird is also very numerous in the West Indies, Mexico and Louisiana; but it does not frequent the Northern, or even the Middle States, like the Common Crow Blackbird. Our opinion that the *Corvus mexicanus* of authors is the male of this species, and their *Corvus zanoë* the female, is corroborated by the male and female Great Crow Blackbird being seen in separate flocks.

QUISCALUS VERSICOLOR.*

FEMALE COMMON CROW BLACKBIRD.

[Plate V. Fig. 1.]

Quiscalus versicolor, VIEILL, *Nouv. Dict. d'Hist. Nat.* xxviii., p. 488.—NOBIS. *Obs. Nom. Wils. Orn. Journ. Acad. Nat. Sc. Philad.* iii., p. 365.—*Gracula quiscala*, LINN. *Syst.* i., p. 165, Sp. 7. GMEL. *Syst.* i., p. 397, Sp. 7. LATH. *Ind.* p. 191, Sp. 7.—*Gracula barita*, GMEL. *Syst.* i., p. 396, Sp. 4. LATH. *Ind.* p. 191, Sp. 6. ORD, *Journ. Acad. Nat. Sc. Philad.* i., p. 254 (not of LINN.).—*Oriolus ludovicianus*, GMEL. *Syst.* i., p. 387, Sp. 31 (pied variety).—*Oriolus leucocephalus*, LATH. *Ind.* p. 175, Sp. 4 (pied variety).—*Pica jamaicensis*, BRISS. *Av.* ii., p. 41, Sp. 3.—*Monedula purpurea*, the Purple Jackdaw, CATESBY, *Carolina*, i., p. 12, Pl. 12.—*Gracula purpurea*, the Lesser Purple Jackdaw, or Crow Blackbird, BARTR. *Trav.* 291.—*Pie de la Jamaïque*, BUFF. *Ois.* iii., p. 97.—*Cassique de la Louisiane*, BUFF. *Ois.* iii., p. 242. *Pl. Enl.* 646 (pied variety).—Purple Grackle, PENN. *Arct. Zool.* Sp. 153. LATH. *Syn.* i., Part II., p. 462, Sp. 6.—Boat-tailed Grackle, PENN. *Arct. Zool.* Sp. 154. LATH. *Syn.* i., Part II., p. 460, Sp. 5.—White-headed Oriole, PENN. *Arct. Zool.* Sp. 147. LATH. *Syn.* i., Part II., p. 422, Sp. 4 (pied variety).

THE female Common Crow Blackbird is figured in the annexed plate, that naturalists may have an opportunity of comparing it with the corresponding sex of the Great Crow Blackbird, and thus receive a distinct idea of the difference between the two species, so well manifested in their females.

The specific name of this bird (*quiscala*) has been changed, in consequence of its having been applied to the genus: we have substituted the name given by Vieillot, which is admirably appropriate. The English name employed by Wilson being now rendered inadmissible by the generic change, we have thought proper to adopt a local appellation.

The female Common Crow Blackbird is eleven inches in length, and sixteen and a half in extent. The bill is nearly an inch and a half long, and, as well as the feet, black; the irides are yellowish-white; the whole head, neck, and upper part of the breast, are blackish, with steel blue, green and violet reflections, which are not so vivid as in the male. The general color of the body, wings, and tail, is deep sooty-brown; the feathers of the back are margined with coppery and purplish; the rump, tail coverts, and wing coverts, are glossed with purplish; the lower part of the breast and flanks have a coppery reflection; the inferior tail coverts are obscurely glossed with violet. The tail is cuneiform, but slightly concave in flight, and is five inches long, extending two and a half inches beyond the tip of the wings; the feathers are glossed with very obscure greenish. In the male the tail is also

* See Wilson's *American Ornithology*, i., p. 156, Pl. 21, fig. 4, for the Male, and history.

cuneiform, and greatly concave, exhibiting a singular boat-shaped appearance, as in the preceding species, and even more remarkably so, according to Mr. Ord, which induced him to change the name.

We shall not attempt to make any additions to the almost complete, and very excellent history of this species, given by Wilson: but as the four species of *Quiscalus* are liable to be confounded, we shall proceed to give a few comparative observations, that the student may be enabled to distinguish them from each other.

Amongst other remarkable traits, the *Quiscalus ferrugineus* is at once known in all its various states, by its even tail, and comparatively smaller bill, which somewhat resembles that of a Thrush. In addition to the characters drawn from its dimensions, the *Quiscalus versicolor* can always be distinguished from its congeners, by the slight difference in size and color, between the sexes; while, in the other species, the males and females are remarkably dissimilar: the mouth of this species is, moreover, armed with a prominent osseous carina, a quarter of an inch long, which, in the others, is much smaller. That the *Quiscalus major*, and *Quiscalus baritus*, should have been confounded together, is not a little surprising, as the former is sixteen inches long, the tail being eight inches, and extending five inches beyond the tip of the wings; whilst the latter is only ten inches, the tail much less cuneiform, four inches and a half long, and extending but two inches beyond the tip of the wings; the osseous carina is similar in these two species, and the markings of the females are much alike. From this statement, it is apparent, that the females of the largest and smallest Crow Blackbirds correspond in the disposition of their colors; a parity that does not exist in the intermediate species. In comparative size, however, they differ considerably: the female of the *baritus*, though smaller, as we have already stated, is, in proportion to its mate, considerably larger than that of the other, being only half an inch, whilst the female of the *major* is nearly four inches, smaller.

The individual represented in the annexed plate, is a remarkably fine one, in the most perfect state of plumage. It therefore more strongly resembles the male than is usual with its sex, which are generally much less brilliant in coloring, and more sooty-brown. This bird was obtained at Great Egg Harbor on the twenty-first of May, and was selected as the best female of several pairs, assembled to breed at one of the identical Fish-Hawks nests, in the interstices of which Wilson mentions having seen them building. One of their nests contained three eggs, and the species had not ceased to lay.

These birds, as we have had occasion personally to observe, like most of the feathered tribes, are subject to become either wholly or partially albinos. From this circumstance, numerous errors have been introduced in the pages of ornithological works.

SYLVIA CELATA.

ORANGE-CROWNED WARBLER.

[Plate V. Fig. 2.]

Sylvia celata, SAY, in *Long's Expedition to the Rocky Mountains*, I., p. 169.

THIS little bird, discovered early in May, at Engineer Cantonment, on the Missouri river, was first described and named by Say; the species was not uncommon at that season, and appeared to be on its passage further north. It is more particularly interesting, inasmuch as it enriches the Fauna of the United States with another species of the small sub-genus *Dacnis*, which may be ascertained by inspecting the bill, represented in the annexed plate.

The Orange-crowned Warbler is full five inches long, and seven in extent. The bill is dark horn color, slender, straight, entire, and tapering to an acute point; the base of the inferior mandible is whitish beneath; the legs are dusky; the irides dark brown. The general plumage above is dull greenish-olive, the rump and tail coverts being bright yellowish-olive. The head is very slightly and inconspicuously crested; the feathers of the crest are orange at base, constituting a spot on the crown, visible only when they are elevated, being tipped with the common color. The whole bird beneath is dull olive-yellow; the inferior tail coverts are pure yellow. The wings are destitute of spots or bands; the primaries are dark brown, olive-green on the exterior margin, which is much paler on the outer ones; the interior margin is whitish; the four outer primaries are sub-equal; the fifth is but very little shorter. The tail is even, the feathers being dark brown, edged with olive-green on the outer, and with white on the inner web.

The Orange-crowned Warbler resembles several species of indigenous and foreign Warblers; and the females of others, such as that of the *Sylvia trichas*, may also be mistaken for it; but it may be distinguished from each of them respectively by particular characters, which it is not necessary to detail, as the concealed orange spot of the crown is a peculiarity not possessed by either of the allied species. The Nashville Warbler (*Sylvia rubricapilla*) of Wilson, seems to be more closely related to the Orange-crowned Warbler than any other. That bird, also, is evidently a *Dacnis*, and scarcely differs from our species, except in the white belly, the light ash color of the head and neck, and the deep chestnut color disposed in small touches on the crown, instead of an uniform orange color.

The figure given in our plate is that of a male; and the only difference observable between the sexes is, that the rump of the male is of a brighter color, approaching, in old birds, to a pure yellow.

During winter, the Orange-crowned Warbler is one of the most common birds in the neighborhood of St. Augustine, Florida, almost exclusively frequenting the orange trees. Their manners resemble those of the kindred species, though they have a remarkable habit of constantly inflecting the tail, like the Pewee. The note consists of a chuck, and a faint squeak, but little louder than that of a mouse.

FRINGILLA GRAMMACA.

LARK FINCH.

[Plate V. Fig. 3.]

Fringilla grammaca, SAY, in *Long's Expedition to the Rocky Mountains*, I., p. 139.

FOR this very interesting new species, Ornithology is again indebted to Long's expedition, and particularly to Say, who gave it the name we have adopted, and informs us, in his notes, that many of these birds were shot in the month of June, at Bellefontaine, on the Missouri; and others were observed, the following spring, at Engineer Cantonment, near Council Bluffs.

It seems probable that the range of this bird is limited, in a great measure, by the Mississippi on the east. Like the Larks, they frequent the prairies, and very seldom, if ever, alight on trees; they sing sweetly, and often continue their notes while on the wing.

The Lark Finch is six inches and a half long; its bill, a little notched at tip, is of a pale horn color, with a slight elevation on the roof of the upper mandible. The feet are pale flax color, tinged with orange; the irides are dark brown. On the top of the head are two dilated lines, blackish on the front, and passing into ferruginous on the crown and hind head, separated from each other by a whitish-cinereous line; from the eye to the superior mandible is a black line, which, as well as the eye, is enclosed by a dilated white line, contracted behind the eye; from the angle of the mouth proceeds a black line, which is much dilated into a ferruginous spot on the auricles; below this is a broad white line, margined beneath by a narrow black one, originating at the inferior base of the lower mandible; the chin and throat are pure white. The neck above, the back, and rump, are dull cinereous-brown, each feather of the interscapular region having a blackish-brown disc; the neck beneath and breast are dull whitish-cinereous; a small blackish-brown spot is on

the middle of the breast; the belly and vent are white. The wings are dusky-brown; the lesser wing coverts are margined with dull cinereous; the exterior primary is equal to the third; both are very little shorter than the second, which is longest; the outer webs of the second, third, and fourth primaries, being whitish near their bases, form a distinct spot on the wing. The tail is rounded, the feathers being blackish-brown; the two intermediate ones are immaculate, somewhat paler than the others. The adjoining ones have a small white spot at tip, which, on the lateral feathers, increases in size, until, on the exterior one, it occupies half the total length of the feather; whilst its exterior web is white to the base.

The female is very similar to the male, but the colors are duller, and the stripes on the head are not so decided; the auriculars, moreover, are yellowish-brown.

This species has the bill and feet precisely similar to those of Wilson's Black-throated Bunting, and those other *Fringillæ*, and supposed *Emberizæ*, of which I have constituted the sub-genus *Spiza*, in my "Observations on Wilson's Ornithology." It cannot be mistaken for any other species, being very peculiar in its markings and manners.

PYRRHULA FRONTALIS.

CRIMSON-NECKED BULLFINCH.

[Plate VI. Fig. 1, Male; Fig. 2, Female.]

Fringilla frontalis, SAY, in *Long's Expedition to the Rocky Mountains*, II., p. 40.

MUCH confusion exists in the works of naturalists respecting those Finches and Bullfinches that are tinged with red; and, in fact, their great resemblance to each other, and their intricate synonymy, render them very difficult to elucidate. The only species in Wilson's work with which the present may be confounded, is the *Fringilla purpurea*, a bird closely related to ours, and for the first time well figured, and permanently established by that author.* But several other allied species

* He was rather precipitate in asserting the *Fringilla rosea* and *Loxia erythrina* to be identical with his bird, as they are actually two very distinct species, belonging to the genus *Pyrrhula*, and proper to the old continent; whilst the *purpurea* is a true *Fringilla*, and peculiar to America. To those who have not critically investigated the subject, it may appear somewhat inconsistent to state, that the *erythrina* is not an inhabitant of this continent, when it is a well known fact, that many authors speak of it as an American bird. This apparent contradiction may be readily removed, by considering what bird those authors alluded to, when they stated the *erythrina* to be a native of North America. When Latham expressed a

may be mistaken for the Crimson-necked Bullfinch; two of these, belonging to the genus *Pyrrhula*, present so much analogy with the present species, judging from their descriptions, that we doubted the correctness of giving the latter a separate place, considering it identical with *Pyrrhula erythrina* of Temminck, whose description agrees better with it than that of any other. Yet, in addition to some differences discoverable by comparing the Crimson-necked Bullfinch with his description, we cannot admit, that an arctic bird of the old continent, known to visit even the more northern portion of the temperate climates only during very cold winters, and then not very regularly, should be found, in the month of July, on the sultry plains of the Arkansas, and of course breeding there. We therefore conclude that our bird is not the *erythrina*, although we regret our inability to give differential characters, having never seen that species, as our endeavors to obtain a specimen have not been attended with success. The southern residence of our bird might lead us to suppose it the *Loxia (Pyrrhula) violacea*, which we have not seen, neither do we think the species well established. But, if we are to rely on the short description given of it, and on Catesby's figure, we cannot perceive much resemblance between them; their identity, however, would not much surprise us, when we consider that Catesby's figure of the *Pyrrhula violacea* is as much like our bird, as his figure of the Purple Finch is like what it is intended to represent. Having the authority of Say, we consider it as new, notwithstanding these doubts.

The Crimson-necked Bullfinch was procured by Long's party, near the Rocky Mountains, and Say described it in the journal of that expedition, under the name of *Fringilla frontalis*, adopting that genus in the comprehensive limits assigned by Illiger and Cuvier. The specific name given by Say is preoccupied in that genus by an African species; but, as we consider our bird a *Pyrrhula*, we think proper to retain his name.

The Crimson-necked Bullfinch is five inches and a half long. The bill and feet are horn color; the lower mandible is paler; the irides are dark brown. The head, neck beneath, and superior portion of the breast, are brilliant crimson, most intense near the bill and over the eye; the space between the bill and the eyes is cinereous-gray, as well as the cheeks, and the small feathers immediately around the bill; the

doubt in his Synopsis, whether the birds in the neighborhood of New York, so much resembling the *erythrina*, were not specifically the same, he alluded to the *Fringilla purpurea*: Gmelin, as usual, in his miserable compilation, inserted this doubt of Latham as a certainty. As to the Crimson-headed Finch of Pennant, it is evidently the *purpurea*, thus excusing, in part, the strange assertion of Wilson. Latham, also, committed an error in his Index, by placing the *Loxia erythrina* of Pallas and Gmelin, his own Crimson-headed Finch, as a variety of *Fringilla rosea*.

crimson feathers are brown at base, being red only at tip. The occiput, and the neck above and on each side, are brown, with a reddish cast, the feathers being margined with pale; the back is dusky-brownish; the rump and superior tail coverts are crimson, but less vivid than that of the head; the inferior portion of the breast, the belly, and vent, are whitish, each feather having a broad fuscous line; the general plumage is lead color at base. The wings are blackish-brown, the primaries being broadly margined within, towards the base, with whitish, and exteriorly edged with grayish; the coverts and secondaries are edged with dull grayish. The tail is blackish-brown, hardly emarginated; the lateral feathers are edged, on the inner side, with whitish.

Such is the description of our male specimen; but as it was procured when summer was far advanced, a season in which the plumage begins to fade, it is proper to observe, that the coloring of this bird is probably much more brilliant in its full spring dress, the crimson extending much further down on the back, &c. As the season advances, the tips of the feathers, which are the only parts of a crimson color, being gradually worn off, the bird as gradually loses its brilliancy, and, in the autumnal and winter plumage, exhibits the humble appearance of the female.

The female is altogether destitute of the brilliant color, being dusky-brown above, the feathers margined on each side with dull whitish; the whole inferior surface is whitish, each feather having a brown longitudinal line in the middle, obsolete on the vent, which is almost pure white.

A change similar to that above mentioned, takes place in the Purple Finch, whose habits also much resemble those of the Crimson-necked Bullfinch; but the form of its bill is certainly that of a Finch, and will always distinguish it from the species we are describing, the bill of which is unequivocally of the Bullfinch form. The different tints of red adorning these birds, will also at once strike the eye of the least expert in discriminating species; in the present bird the tint is vivid crimson, whilst in the Purple Finch it is rosaceous. In addition to these characters, the latter is a somewhat larger bird, with a pure white belly and inferior tail coverts, and a deeply emarginated tail; whilst the former has a nearly even tail, and its belly and inferior tail coverts are striped with dusky.

Some persons, without doubt, may think it highly improper to separate generically two birds, so closely allied as the present species and the Purple Finch, which may be mistaken for the same species; but we may remark, that they stand at the extreme limit of their respective genera, and form the links of union between *Pyrrhula* and *Fringilla*. It is true, that the intimate alliance of these two groups would seem to justify Illiger, Meyer, and others, in uniting them under the same genus; but as *Fringilla* is so vast in the number of its species, and *Pyrrhula* has a few distinctive characters, we choose to follow Tem-

minck, Vieillot, and other naturalists, by arranging them generically separate. The closeness of affinity between these two birds, when thus properly disposed, affords no good reason for the unity of their genera; for, if we proceed to the abolition of all artificial distinction between genera united by almost imperceptible gradations, *Sylvia* would be joined to *Turdus*, *Myiothera* to *Troglodytes*, *Lanius* to *Muscicapa*, the whole of these would be confused together; and, in fact, orders and classes would be considered as genera; and even the vast groups, thus formed, would be still observed to unite inseparably at their extremes, and we should finally be compelled to consider all living bodies, both animal and vegetable, as belonging to one genus. This argument, however, may not convince every naturalist of the propriety of our arrangement, and they must, therefore, place the two species, strictly according to nature, in one genus, and consider the present as a *Fringilla*; but, how unnatural will then be the situation of *Pyrrhula vulgaris*, and *Pyrrhula enucleator*!

The inflated form of the bill, the curvature of both mandibles, very apparent in the superior one, as well as the compression of both at tip, are obvious characters, which distinguish the species of *Pyrrhula* from the *Fringillæ*, in which both mandibles are nearly straight, and present a conic form on every side.

Berries, and seeds which they extract from the pericarp, buds, and young shoots of different plants, constitute the food of the Bullfinches. They generally frequent forests and bushy places, building their nests on small trees, or low branches of large ones: the females lay four or five eggs. The greater number of the species moult twice a year; the sexes differ considerably in appearance. They reside in cold and temperate climates, with the exception of a few species, that inhabit Africa and South America.

The Crimson-necked Bullfinch is found in the district of country extending along the base of the Rocky Mountains, near the Arkansas river, and has not been observed elsewhere. In the month of July, when our specimens were obtained, these birds occur in small scattered flocks, keeping mostly on the tops of the cotton-wood trees, on whose buds they partially feed. Their voice considerably resembles that of their relative, the *Fringilla purpurea*.

FRINGILLA PSALTRIA.
ARKANSAS SISKIN.

[Plate VI. Fig. 3.]

Fringilla psaltria, SAY, in *Long's Expedition to the Rocky Mountains*, II., p. 40.

"A VERY pretty little bird," writes Say, in his precious zoological notes to the journal of Long's expedition, "was frequently seen hopping about in the low trees or bushes, singing sweetly, somewhat in the manner of the American Goldfinch, or Hempbird, *Fringilla tristis*. The tints, and the distribution of the colors of its plumage, resemble, in a considerable degree, those of the autumnal and less brilliant vesture of that well known species. It may, however, be distinguished, in addition to other differences, by the black tip of its tail feathers, and the white wing spot."

The Arkansas Siskin inhabits the country near the base of the Rocky Mountains, south of the river Platte, and probably is also to be found in Mexico. The only specimen brought by the party, was shot on the sixteenth of July, near Boiling Spring creek: on the annexed plate, it is figured in company with the American Goldfinch in autumnal plumage, for the sake of comparison.

The Arkansas Siskin is four inches and a quarter long; the bill is yellowish, tipped with blackish; the feet are flesh color; the irides burnt-umber. The top of the head is blue-black; the cheeks are dusky-olivaceous; the neck above and half its side, the back, and rump, are olivaceous, more or less intermixed with dusky and yellowish, particularly on the rump; the superior tail coverts are black, varied with olivaceous: all the under parts, from the very base of the bill to the under tail coverts inclusively, are of a pure bright yellow. The wings are brownish-black, the smaller wing coverts being very slightly tinged with blue, and edged with olivaceous; the greater wing coverts are tipped with white, which forms a narrow band across the wing; the primaries, excepting the exterior one, are slightly edged with white; the third, fourth, fifth, sixth, and seventh, are white towards the base, so as to exhibit a white spot beyond the wing coverts; the first four primaries are nearly equal in length, the fifth is a quarter of an inch shorter; the secondaries are broadly margined with white exteriorly, towards their tips. The tail is slightly emarginated, the feathers being blackish, slightly edged with dull whitish; the three exterior ones are widely pure white on the middle of their inner webs.

The specimen we have just described is a male, evidently in perfect

plumage; the female, and state of imperfect plumage, are unknown; but, without risking any great deviation from the truth, we may state, from analogy, that the young resemble the female, which must be destitute of the black cap, and have the colors less vivid and less pure.

The Arkansas Siskin certainly resembles the American Goldfinch in its winter dress; but a still more striking similarity exists in some other birds, such as the European Siskin (*Fringilla spinus*), and the Olivarez (*Fringilla magellanica*, Vieill.) of South America; and it is so similar to the European, that it might with a much greater degree of propriety be considered as a variety, than those regarded as such by authors. They can, however, be easily distinguished by the following comparative characters: all the under parts of the Arkansas Siskin are bright yellow, whilst the corresponding parts of the European Siskin are tinged with greenish, the throat being black, and the belly, vent, and flanks whitish, spotted longitudinally with black; the margins and spots of the wing and tail feathers are white in our bird, and yellow in the European Siskin; the white spots on the tail of the Arkansas Siskin are confined to the three outer feathers, whilst in the foreign bird all the feathers, excepting the two middle ones, are marked with yellow; the bill of our species is also a little shorter, less compressed, and less acuminate; finally, we may notice another trifling difference, which consists in the proportional length of the primaries, the four first being nearly equal in the American bird, and the three first only in the European, the fourth being almost a quarter of an inch shorter. The other approximate species, *Fringilla magellanica*, Vieill., considered by Gmelin and Latham as a variety of the European Siskin, is readily distinguishable by having the head entirely black.

Though the Mexican Siskin (*Fringilla mexicana*, Gmel.) may prove to be the female of our bird, or the male in an imperfect state of plumage (and, from the locality, we should possibly have referred it to that name, had the classification of it fallen to our lot), yet, as nothing positive can be drawn from so unessential an indication as that of the Mexican Siskin, we have no hesitation in following the same course with Say, who considers it as entirely new, and have retained his elegant name of *Fringilla psaltria*. It is very possible that not only the *Fringilla mexicana*, but also the Black Mexican Siskin (*Fringilla catotol*, Gmel.) may be the same bird as our *Fringilla psaltria*; but how can we determine, from the vague descriptions that have been given of those species? they are equally applicable to the American Goldfinch in its dull state of plumage; and Wilson expresses a doubt whether or not the Black Mexican Siskin is the same as his new species, *Fringilla pinus*.

All these pretty little birds belong to the sub-genus *Carduelis*, having a more slender, acute, and elongated bill, than other *Fringillæ*.

FRINGILLA TRISTIS.

FEMALE AMERICAN GOLDFINCH.*

[Plate VI. Fig. 4.]

Fringilla tristis, LINN. *Syst.* I., p. 320, Sp. 12, Male.—GMEL. *Syst.* I., p. 907, Sp. 12. LATH. *Ind.* p. 452, Sp. 64. VIEILL. *Nouv. Dict. d'Hist. Nat.* XII., p. 167.—*Fringilla spinus*, var. γ GMEL. *Syst.* I., p. 914, Sp. 25, Male, in winter plumage.—*Carduelis Americana*, BRISS. *Av.* III., p. 64, Sp. 3.—*Carduelis Americanus*, the American Goldfinch, CATESBY, *Carolina*, I., p. 43, pl. 43, Male in spring dress. BARTR. *Trav.* p. 291.—*Chardonneret jaune*, BUFF. *Ois.* IV., p. 212.—*Chardonneret du Canada*, BUFF. *Pl. Enl.* 202, fig. 2, Male, in spring dress.—*Tarin de la Nouvelle York*, BUFF. *Ois.* IV., p. 231. *Pl. Enl.* 292, fig. 1, Male changing; fig. 2, Male in winter dress.—*Golden Finch*, PENN. *Arct. Zool.* Sp. 242.—*American Goldfinch*, EDWARDS, *Glean.* II., p. 133, pl. 274, Male and Female.—LATH. *Syn.* II., Part I., p. 288, Sp. 57. *Id.* 1st Suppl. p. 166.—*Siskin*, var. B., LATH. *Syn.* II., Part I., p. 291, Sp. 58, Male changing.

WE have been induced by the analogy existing between the preceding new species and this common bird, to figure them as companions on the same plate, that they may be immediately and readily compared. To give the present figure more interest, we have chosen the female, though we might with equal propriety have selected the male in winter plumage, as the latter differs but slightly from its mate during that season. The very great dissimilarity between the sexes in their spring dress, will justify the reappearance of a bird already given by Wilson, more especially as it has, in this state, been mistaken for a distinct species, and most unaccountably arranged in the systems as a variety of the European Siskin.

The history of this bird, which so completely resembles the Goldfinch of Europe in song and habits, being nearly completed by the golden pen of Wilson, we shall not attempt to add any observations of our own, but shall refer the reader to his volume, quoted above, for its biography. As we cannot but observe that his description is short and somewhat imperfect, probably owing to the opinion he at first entertained, but afterwards judiciously relinquished, that a minute description of common birds is superfluous, we shall proceed to describe the species in all its different states.

The male American Goldfinch in summer dress, represented by Wilson in his first plate, is four and a half inches long, and eight in extent. The bill resembles that of the European Goldfinch, and, as well as tho

* See Wilson's *American Ornithology*, II., p. 99, pl. 1, fig. 2, for the male, and history.

feet, is of a reddish-cinnamon color; the irides are dark brown. The front and vertex are glossy black; the remaining part of the head, and all the body, rich lemon-yellow; the superior and inferior tail coverts are white, as well as the thighs. The wings and tail are black, the small coverts of the wings being yellow externally, and white on the inner side and at tip; the greater coverts are tipped with white, an arrangement which exhibits two white bands across the wings; the first and third primaries are equal, hardly shorter than the second, which is the longest, the fourth being nearly as long as the third; the secondaries are margined with white. The tail is emarginated, the feathers being black, slightly edged with white, and having a large pure white spot on the inner web at tip.

The female, as is usual in this family of birds, is rather smaller than the male, and is widely different from that sex in the colors of its plumage. The bill and feet are brownish; the lower mandible is whitish at base: the head has no appearance of black, and, with the neck, the back, and rump, is brownish-olive, the latter part being of a lighter shade than the preceding portions; the upper tail coverts are greenish-white. The frontlet, cheeks, sides of the neck, throat, and upper part of the breast, are pale greenish-yellow; the lower portion of the breast, belly, vent, flanks, under wing and under tail coverts, are whitish. The wings and tail, which always afford the most constant specific characters, are like those of the male, except that the black color is less intense, and the white is less pure, being slightly tinged with rufous.

In this state of plumage, the bird closely resembles the *Fringilla citrinella* of the south of Europe, which however can always be distinguished from it by several characters, but more particularly by its greenish-yellow rump, and by being destitute of the whitish spot at the tip of the inner web of the tail feathers. The young are so like the females as to be distinguished with difficulty; their colors, however, are still less lively; they assume the adult livery in the spring, but do not exhibit all the brilliancy of the perfect bird until the third moult.

The American Goldfinch moults twice a year, in the seasons of spring and autumn. At the spring moult the males obtain their vivid coloring, which is lost at the autumnal change, and replaced by a more humble dress, similar to that of the female, from which sex they cannot then be readily distinguished. The black of the wings is, however, somewhat more intense; the white of the wings and of the tail is dull and dirty, and a yellowish tint prevails around the eyes, as well as on the neck. From this statement it follows, that Wilson's figure represents the adult male in that brilliant dress in which it appears for the space of four or five months only; whilst the figure in the annexed plate exhibits the invariable colors of the female and young, as well as the appearance of the male for the remaining seven months in the year.

As the season advances, the plumage of the adult male gradually changes, but not simultaneously in the different individuals, so that in the spring and autumn we rarely find two that are alike; some being more or less yellow, having a rudiment of black on the head, &c., according as the moulting process is more or less advanced.

A remarkable variety is exhibited in a changing male, which I shot near Philadelphia, in the month of April, and which is therefore considerably advanced towards perfect plumage. All the primaries are pure white on the outer web towards the base, thus constituting, in the most obvious manner, that white spot beyond the wing coverts, assigned by Say as a good discriminating mark between this species and the preceding. The fact we have related diminishes the value of this character, which is nevertheless a very good one; but as many other distinctions are observable, we need not rely exclusively upon it. The deviation we have here mentioned is the more remarkable, as the greater number of species allied to this bird have that spot either white or yellow.

Since writing the above, I obtained, from one of the large flocks in which these birds congregate in the autumn, several specimens of both sexes, more or less distinguished by the marking above stated as peculiar to the variety.

FRINGILLA AMÆNA.

LAZULI FINCH.

[Plate VI. Fig. 5.]

Emberiza amæna, SAY, in *Long's Expedition to the Rocky Mountains*, II., p. 47.

THE genus *Emberiza*, though very natural, and distinguished by well marked characters, has, notwithstanding these advantages, been often misunderstood; and authors, without consulting the boundaries assigned to it by themselves, have recorded a copious list of species, whilst in nature its limits are much restricted. We are not therefore surprised, that so acute a zoologist as Say should have arranged his bird in that genus, particularly as it is more closely allied to *Emberiza* than many of those, not only of Wilson, but even of Linné and Latham.

This bird, which we have no hesitation in pronouncing one of the most beautiful of its tribe, would be placed by Vieillot in his genus *Passerina*, but according to my classification it belongs to the genus *Fringilla*, and to that American sub-genus lately established in my "Observations on the Nomenclature of Wilson's Ornithology," under

the name of *Spiza*. As a species, it is more intimately allied to *Fringilla ciris* and *cyanea*,* which I stated in that paper to differ so much from their congeners, particularly in the greater curvature of the upper mandible, as to deserve, perhaps, a separation into a small sub-genus by themselves: this would unite *Fringilla* to *Tanagra*, as *Spiza*, on the other hand, shows its transition to *Emberiza*.

The Lazuli Finch is five inches and three-quarters long. The bill is formed like that of the Indigo-bird (*Fringilla cyanea*, Wils.), but is emarginated near the tip, being horn color, as well as the feet; the irides are dark brown. The whole head and neck are brilliant verdigrise-blue; the back is brownish-black, intermixed with blue, and a little ferruginous-brown; the rump is pure verdigrise-blue: the superior portion of the breast is pale ferruginous; the lower part of the breast, the belly, and inferior tail coverts, are white. The smaller wing coverts are blue; the middling coverts are blackish at base, and broadly tipped with white, forming a wide band across the wing; the greater wing coverts are blackish, obscurely margined with blue, and slightly tipped with white on the exterior web, constituting a second band across the wings parallel to the first, but much narrower; the primaries and secondaries are blackish, obscurely margined with blue on the outer web; the under wing coverts are whitish, a little intermixed with blue. The tail is slightly emarginated, the feathers being blackish, edged with blue on the outer web, and with white on the inner web at tip.

The above description of this handsome bird is taken from a male in summer plumage, the only specimen brought by Long's exploring party; hence we are unable to give any positive information relative to the female and young, though from analogy we must believe them in great part destitute of the blue color, and otherwise less brilliantly adorned.

This species appears to be rather rare; it is found along the Arkansas river, near the base of the Rocky Mountains, during the summer months; they frequent the bushy valleys, keeping much in the grass, and seldom alight on shrubs or trees. In this respect, also, they resemble the Indigo-bird, and probably their habits are the same, although the note is entirely dissimilar.

* Its relation to *Fringilla cyanea*, considered as an *Emberiza*, probably induced Say to place it under that genus.

HIRUNDO FULVA.
FULVOUS OR CLIFF SWALLOW.

[Plate VII. Fig. 1.]

Hirundo fulva, VIEILL. *Ois. de l'Am. Sept.* 1., p. 62, Pl. 32. STEPHENS, *Cont. of SHAW'S Zool.* x., Part 1., p. 126. DEWITT CLINTON, *Ann. Lyceum Nat. Hist. N. Y.* 1., p. 156.—*Hirundo lunifrons*, SAY, in *Long's Expedition to the Rocky Mountains*, II., p. 47.

WITH the exception of a very imperfect description, little was known relative to this interesting bird, anterior to Long's expedition to the Rocky Mountains. One of the notes annexed to the account of that journey contains an excellent description of this Swallow, with a notice of its habits, and remarkable manner of building. Mr. De Witt Clinton has recently published a paper on the same subject, accompanied by some observations from Mr. Audubon. Combining what these gentlemen have made known with the information previously given by Vieillot and Say, we can present a tolerably complete history of the Cliff Swallow.

Some doubts having been entertained whether the *Hirundo lunifrons* of the Rocky Mountains be the same species as the *Hirundo fulva* of the western part of New York, I was desirous of deciding the question by comparing the specimens; this I accomplished, through the politeness of Dr. Dekay of New York, who, with the kindness and liberality distinctive of those who cultivate science for its own sake, sent me the specimen and nest deposited by Mr. Clinton in the cabinet of the Lyceum. Thus being possessed of the individuals in question, we are enabled to place their specific identity beyond the reach of future uncertainty.

That Say considered his *Hirundo lunifrons* as a new bird, is entirely attributable to the incorrectness of Vieillot's figure, which is one of those better suited to mislead than to assist the naturalist in his researches. The most striking characteristic of the *Hirundo fulva* is its even tail; yet Vieillot has represented this part as forked. We are therefore not surprised that our learned zoologist, who had no opportunity of consulting the colored plate, should not have even thought of comparing his bird with that of Vieillot, who probably figured it with a forked tail merely because it was a *Swallow*. The characters of the Cliff Swallow are so remarkable, and its manner of building is so peculiar, that, when these are accurately delineated, it cannot be mistaken for any other species.

The Cliff Swallow is five and a half inches long. The bill is black, and the feet dusky; the irides are dark brown. A narrow black line extends over the bill to each eye; the front is pale rufous, and the remaining part of the crown black-violaceous; the chin, throat, and cheeks are dark ferruginous, extending in a narrow band on the hind head; the upper part of the body is black, glossed with violaceous; the inferior part of the rump, and some of the tail coverts, are pale ferruginous; the breast is of a pale rufous-ash color, and the remaining under parts are whitish, tinged with brownish-ferruginous. The wings and tail are blackish, the small wing coverts being glossed with violaceous; the inferior wing coverts are ashy-brown: the tail is nearly entire, somewhat shorter than the tips of the wings; the exterior tail feather is slightly edged with whitish on the inner vane: the wing and tail feathers have their shafts black above, and white beneath.

This description is taken from our finest male, which is also represented in the plate; no difference exists between the sexes, and the young, even during early age, can scarcely be distinguished from the parents, except by having the front white instead of rufous. We are informed by Vieillot, that some individuals have all the inferior surface of the body tinged with the same color as that of the throat; these are probably very old males.

A very singular trait distinguishes the migrations of this bird. While the European or white variety of the human race is rapidly spreading over this continent, from its eastern borders to the remotest plains beyond the Mississippi, the Cliff Swallow advances from the extreme western regions, annually invading a new territory farther to the eastward, and induces us to conclude, that a few more summers will find it sporting in this immediate vicinity, and familiarly established along the Atlantic shores.

Like all other North American Swallows, this species passes the winter in tropical America, whence in the spring it migrates northward, for the purpose of breeding. It appears to be merely a spring passenger in the West Indies, remaining there but a few days, according to Vieillot, who, not seeing any in the United States, and observing some while at sea, in August, in the latitude of Nova Scotia, supposed that they propagated in a still more northern region. As we have not received any account of their inhabiting the well explored countries around Hudson's Bay, we are led to the conclusion, that the western wilds of the United States have hitherto been their summer resort, and that not until recently have they ventured within the domains of civilized man. Be this as it may, they were observed in great numbers, by Major Long's party, near the Rocky Mountains, in the month of July; and a few were also seen on the banks of the Missouri river. Within ten or twelve years, they have become familiar in different localities of Ohio, Ken-

tucky, &c., whence they are extending very rapidly, and have recently appeared in the western part of New York. In order to show the rapid progress of this little stranger, we quote the following passage from Mr. Clinton's interesting paper.

The Fulvous Swallow "first made its appearance at Winchell's tavern, on the high road, about five miles south of Whitehall, near Lake Champlain, and erected its nest under the eaves of an out-house, where it was covered by the projection of a roof. This was in 1817, and in this year there was but one nest; the second year seven; the third twenty-eight; the fourth forty; and in 1822 there were seventy, and the number has since continued to increase."

"It appeared in 1822 at Whitehall, on the fifth of June, and departed on the twenty-fifth of July; and these are the usual times of its arrival and disappearance."

This active little bird is, like its congeners, almost continually on the wing, and feeds on flies and other insects, while performing its aerial evolutions. Their note is different from that of other Swallows, and may be well imitated by rubbing a moistened cork around in the neck of a bottle. The species arrive in the west from the south early in April, and immediately begin to construct their symmetrical nests, which are perfected by their united and industrious efforts. At the dawn of day they commence their labors, by collecting the necessary mud from the borders of the river or ponds adjacent, and they persevere in their work until near mid-day, when they relinquish it for some hours, and amuse themselves by sporting in the air, pursuing insects, &c. As soon as the nest acquires the requisite firmness it is completed, and the female begins to deposit her eggs, which are four in number, white, spotted with dusky brown. The nests are extremely friable, and will readily crumble to pieces: they are assembled in communities, as represented in the back-ground of our plate. In unsettled countries these birds select a sheltered situation, under a projecting ledge of rock; and, in civilized districts, they have already evinced a predilection for the abodes of man, by building against the walls of houses, immediately under the eaves of the roof, though they have not in the least changed their style of architecture. A nest from the latter situation is now before me; it is hemispherical, five inches wide at its truncated place of attachment to the wall, from which it projects six inches, and consists exclusively of a mixture of sand and clay, lined on the inside with straw and dried grass, negligently disposed for the reception of the eggs. The whole external surface is roughened by the projection of the various little pellets of earth which compose its substance. The entrance is near the top, rounded, projecting and turning downward, so that the nest may be compared to a chemist's retort, flattened on the side applied to the wall, and with the principal part of the neck broken off.

So great is the industry of these interesting little architects, that this massive and commodious structure is sometimes completed in the course of three days. About the middle of July, some nests found near the Rocky Mountains contained young ones, while in others the process of incubation had not terminated. It is probable that the Cliff Swallows rear two broods in that region, though in Kentucky and Ohio, agreeably to Mr. Audubon, they have but one in the year. During the first few days of August they assemble in flocks, and after several attempts to commence their migration, they finally succeed in obtaining a unanimity of purpose, and they disappear as suddenly as they came.

STRIX CUNICULARIA.

BURROWING OWL.

[Plate VII. Fig. 2.]

Strix cunicularia, MOLINA, *Hist. Chili* (Am. ed.), I. p. 184. GMEL. *Syst.* I., p. 192, Sp. 28. LATH. *Ind.* p. 63, Sp. 38. VIEILL. *Ois. de l'Am. Sept.* I., p. 48. SAY, in *Long's Expedition to the Rocky Mountains*, II., p. 36 and '200.—*Ulula cunicularia*, FEUILLÉE, *Journ. Obs. Phys.* p. 562.—*Noctua coquimbana*, BRISS. *Ar.* I., p. 525, Sp. 11.—*Coquimbo Owl*, LATH. *Syn.* I., p. 145, Sp. 33.

VENERABLE ruins, crumbling under the influence of time and vicissitudes of season, are habitually associated with our recollections of the Owl; or he is considered as the tenant of sombre forests, whose nocturnal gloom is rendered deeper and more awful by the harsh dissonance of his voice. In poetry he has long been regarded as the appropriate concomitant of darkness and horror; and, when heard screaming from the topmost fragments of some mouldering wall, whose ruggedness is but slightly softened by the mellowing moonlight, imagination loves to view him as a malignant spirit, hooting triumphantly over the surrounding desolation! But we are now to make the reader acquainted with an Owl to which none of these associations can belong; a bird that, so far from seeking refuge in the ruined habitations of man, fixes its residence within the earth; and, instead of concealing itself in solitary recesses of the forest, delights to dwell on open plains, in company with animals remarkable for their social disposition, neatness, and order. Instead of sailing heavily forth in the obscurity of the evening or morning twilight, and then retreating to mope away the intervening hours, our Owl enjoys the broadest glare of the noonday sun, and flying rapidly along, searches for food or pleasure during the cheerful light of day.

The votaries of natural science must always feel indebted to the learned and indefatigable Say, for the rich collection of facts he has made whenever opportunities have been presented, but more especially in the instance of this very singular bird, whose places of resort, in this country, are too far distant to allow many the pleasure of examining for themselves. We feel doubly disposed to rejoice that the materials for the history of our bird are drawn from his ample store, both on account of their intrinsic excellence, and because it affords us an opportunity of evincing our admiration of the zeal, talents, and integrity, which have raised this man to the most honorable and enviable eminence as a naturalist.

In the trans-Mississippian territories of the United States, the Burrowing Owl resides exclusively in the villages of the Marmot, or Prairie Dog, whose excavations are so commodious, as to render it unnecessary that our bird should dig for himself, as he is said to do in other parts of the world, where no burrowing animals exist. These villages are very numerous, and variable in their extent, sometimes covering only a few acres, and at others spreading over the surface of the country for miles together. They are composed of slightly elevated mounds, having the form of a truncated cone, about two feet in width at base, and seldom rising as high as eighteen inches above the surface of the soil. The entrance is placed either at the top or on the side, and the whole mound is beaten down externally, especially at the summit, resembling a much used foot-path.

From the entrance, the passage into the mound descends vertically for one or two feet, and is thence continued obliquely downwards, until it terminates in an apartment, within which the industrious Marmot constructs, on the approach of the cold season, the comfortable cell for his winter's sleep. This cell, which is composed of fine dry grass, is globular in form, with an opening at top capable of admitting the finger; and the whole is so firmly compacted, that it might, without injury, be rolled over the floor.

It is delightful, during fine weather, to see these lively little creatures sporting about the entrance of their burrows, which are always kept in the neatest repair, and are often inhabited by several individuals. When alarmed they immediately take refuge in their subterranean chambers, or if the dreaded danger be not immediately impending, they stand near the brink of the entrance, bravely barking and flourishing their tails, or else sit erect to reconnoitre the movements of the enemy.

The mounds thrown up by the Marmot in the neighborhood of the Rocky Mountains, have an appearance of greater antiquity than those observed on the far distant plains. They sometimes extend to several yards in diameter, although their elevation is trifling, and, except immediately surrounding the entrance, are clothed with a scanty herbage

which always distinguishes the area of these villages. Sometimes several villages have been observed almost entirely destitute of vegetation, and recollecting that the Marmot feeds exclusively on grasses and herbaceous plants, it seems singular that this animal should always choose the most barren spot for the place of his abode. However this may be accounted for, it at least affords an opportunity of beholding the approach of his enemies, and allows him to seek, within the bosom of the earth, that security which he has neither strength nor arms to command.

In all these Prairie Dog villages the Burrowing Owl is seen moving briskly about, or else in small flocks scattered among the mounds, and at a distance it may be mistaken for the Marmot itself, when sitting erect. They manifest but little timidity, and allow themselves to be approached sufficiently close for shooting; but if alarmed, some or all of them soar away, and settle down again at a short distance; if further disturbed, their flight is continued until they are no longer in view, or they descend into their dwellings, whence they are difficult to dislodge.

The burrows into which these Owls have been seen to descend, on the plains of the river Platte, where they are most numerous, were evidently excavated by the Marmot, whence it has been inferred by Say, that they were either common, though unfriendly residents of the same habitation, or that our Owl was the sole occupant of a burrow acquired by the right of conquest. The evidence of this was clearly presented by the ruinous condition of the burrows tenanted by the Owl, which were frequently caved in, and their sides channelled by the rains, while the neat and well preserved mansion of the Marmot showed the active care of a skilful and industrious owner. We have no evidence that the Owl and Marmot habitually resort to one burrow; yet we are well assured by Pike, and others, that a common danger often drives them into the same excavation, where lizards and rattlesnakes also enter for concealment and safety.

The Owl observed by Vieillot in St. Domingo digs itself a burrow two feet in depth, at the bottom of which its eggs are deposited on a bed of moss, herb-stalks, and dried roots. These eggs are two in number, of a very pure white, nearly spheroidal, and about as large as those of the Dove. When the young are only covered with down, they frequently ascend to the entrance to enjoy the warmth of the sun, but as soon as they are approached, they quickly retire into the burrow.

The note of our bird is strikingly similar to the cry of the Marmot, which sounds like *cheh, cheh*, pronounced several times in rapid succession; and were it not that the Burrowing Owls of the West Indies, where no Marmots exist, utter the same sound, it might be inferred, that the Marmot was the unintentional tutor to the young Owl: this cry is only uttered as the bird begins its flight. Vieillot states that the

Burrowing Owl inhabiting St. Domingo, sometimes alights on farm-houses at night, and produces a note which resembles that of the syllables *hoo, hoo, oo, oo*; but has he not mistaken a nocturnal species for it in this case?

The food of the bird we are describing, appears to consist entirely of insects, as, on examination of its stomach, nothing but parts of their hard wing-cases were found. The authors we have quoted, inform us, that, in Chili and St. Domingo, the Burrowing Owls also feed on rats, mice, and reptiles, which we cannot suppose to be the case with the bird found in the United States, as our explorers never could discover the slightest reason for believing that they preyed on the Marmots, whose dwellings they invade.

Throughout the region traversed by the American expedition, the Marmot was unquestionably the artificer of the burrow inhabited by the Owl, while the testimony of Vieillot is equally conclusive, that the Owl digs for himself when he finds no burrow to suit his purpose; but, preferring one already made, his fondness for the Prairie Dog villages is readily explained.

Whether only a single species of Burrowing Owl inhabits the vast continent of North and South America, or whether that of Chili mentioned by Molina, that of St. Domingo described by Vieillot, and the Owl of the Western American territory, be distinct though closely allied species, can only be determined by accurate comparisons.* When we consider the extraordinary habits attributed to all those, as well as their correspondence in form and colors noted in the several descriptions, we are strongly inclined to believe that they are all of the same species; nevertheless, Vieillot states his bird to be somewhat different from that of Molina, and the eggs of the Burrowing Owl of the latter are spotted with yellow, whilst those of the former are immaculate. We have to regret that no figure has hitherto been published, and we cannot well understand why Vieillot did not thus exemplify so interesting a bird. Our figure will be the more acceptable to ornithologists, as it is the first which has been given of the Burrowing Owl: in the distance we have introduced a view of the Prairie Dog village.

The peculiar sub-genus of this bird has not hitherto been determined, owing to the neglect with which naturalists have treated the arrangement of extra-European Owls. Like all diurnal Owls, our bird belongs to the sub-genus *Noctua* of Savigny, having small oval openings to the ears, which are destitute of operculum, the facial disk of slender feathers

* Should they prove to be different species, new appellations must be given; and, as that of *Strix cucularia* will, by right of priority, be exclusively retained for the Coquimbo Owl, we would propose for the present bird the name of *Strix hypugæa*.

small and incomplete, and the outer edges of the primaries not recurved; but it differs from them in not having the tarsus and toes covered by long thick feathers.

The Burrowing Owl is nine inches and a half long, and two feet in extent. The bill is horn color, paler on the margin, and yellow on the ridges of both mandibles; the inferior mandible is strongly notched on each side: the capistrum before the eyes terminates in black rigid bristles, as long as the bill; the irides are bright yellow. The general color of the plumage is a light burnt-umber, spotted with whitish, paler on the head and upper part of the neck; the lower part of the breast and belly are whitish, the feathers of the former being banded with brown: the inferior tail coverts are white immaculate. The wings are darker than the body, the feathers being much spotted and banded with whitish; the primaries are five or six banded, each band being more or less widely interrupted near the shaft, and margined with blackish, which color predominates towards the tip; the extreme tip is dull whitish; the shafts are brown above, and white beneath: the exterior primary is finely serrated and equal in length to the fifth, the second and fourth being hardly shorter than the third, which is the longest. The tail is very short, slightly rounded, having its feathers of the same color as the primaries, and like them five or six banded, but more purely white at tip. The feet are dusky, and remarkably granulated, extending, when stretched backwards, an inch and a half beyond the tail; the tarsi are slender, much elongated, covered before and on each side with loose webbed feathers, which are more thickly set near the base, and become less crowded towards the toes, where they assume the form of short bristles; those on the toes being altogether setaceous, and rather scattered. The lobes beneath the toes are large and much granulated; the nails are black and rather small, the posterior one having no groove beneath.

The individual we have described is a male, and no difference is observable in several other specimens: the female differs in nothing except that her eyes are of a pale yellow color.

PICUS VARIUS.*

YOUNG YELLOW-BELLIED WOODPECKER.

[Plate VIII. Fig. 1, 2.]

Picus varius, LINN. *Syst.* I., p. 176, Sp. 20. GMEL. *Syst.* I., p. 438, Sp. 20. LATH. *Ind.* p. 232, Sp. 21. VIEILL. *Ois de l'Am. Sept.* II., p. 63, pl. 118, adult Male; pl. 119, very young.—*Picus varius carolinensis*, BRISS. *Av.* IV., p. 62, Sp. 24.—*Picus varius minor*, ventre luteo, the Yellow-bellied Woodpecker, CATESBY, *Carolina*, I., p. 21, pl. 21, left figure, adult Male. BARTR. *Trav.* p. 291.—*Epeiche* ou *Pic. varié de la Caroline*, BUFF. *Ois.* VII., p. 77. *Pl. Enl.* 785, adult Male.—Yellow-bellied Woodpecker, PENN. *Arct. Zool.* Sp. 166. LATH. *Syn.* I., p. 574, Sp. 20.

As Wilson's history of this well known Woodpecker is complete, and his description obviously discriminates the sexes and young, we shall refer the reader entirely to him for information on those points. The present bird is introduced on account of its anomalous plumage; for, although the color of the head is but slightly advanced towards its red tint, having only two or three reddish points visible on the forehead, yet the patch on the breast is quite as obvious as it is found in the adult state. In young birds of the first and second years, this patch is usually obsolete, the breast being chiefly dusky-gray, although the crown is entirely red.

The specimen before us, possibly exhibiting one of the periodical states of plumage of this changeable bird, is the only one we have been able to procure, amongst a great number of the young of both sexes in the ordinary dress. The well marked patch on the breast might induce the belief that this individual is an adult female, and that this sex, as several writers have erroneously remarked, is destitute of the red crown; but, in addition to the fact that our specimen proved, on dissection, to be a male, we obtained, almost every day during the month of November, young birds of both sexes, with the crown entirely red, or more or less sprinkled with that color, the intermixture arising altogether from age or advanced plumage, and not from sex. We are unable to state, with any degree of certainty, at what period the bird assumes the plumage now represented; and we rather incline to the opinion that it is an accidental variety.

For the purpose of comparison, we have added, on the same plate,

* See Wilson's *American Ornithology*. I., p. 179, Pl. 9, fig. 2, for the adult, and history.

the most interesting portion of a young bird, as it usually appears in November of the first year; and though the sexes are then alike in plumage, we had the figure taken from a young male, in order to complete the iconography of that sex.

Vieillot's figure represents the young before the first moult, when, like our anomalous specimen, they have no red on the crown; differing, however, in not having the head of a glossy black, but of a dull yellowish-gray, and the patch on the breast also of a dull gray tint.

COLUMBA FASCIATA.

BAND-TAILED PIGEON.

[Plate VIII. Fig. 3.]

Columba fasciata, SAY, in *Long's Expedition to the Rocky Mountains*, II., p. 10.

THIS bird, which is a male, was shot in July, by Mr. Titian Peale, at a saline spring on a small tributary of the river Platte, within the first range of the Rocky Mountains; it was accompanied by another individual, probably its mate, which escaped. As no other specimens have been discovered, the reader will not be surprised that our specific description is unaccompanied by a general history of their manners.

The Band-tailed Pigeon is thirteen inches long; the bill is yellow, black at tip, and somewhat gibbous behind the nostrils. The feet are yellow, and the nails black; the irides are blackish. The head is of a purplish-cinereous color; the neck, at its junction with the head, has a white semi-band, beneath which its back and sides are brilliant golden-green, the feathers being brownish-purple at base; the under part of the neck is pale vinaceous-purplish, this color becoming paler as it approaches the vent, which, together with the inferior tail coverts, is white. The anterior portion of the back, the wing coverts, and scapulars, are brownish-ash; the primaries are dark brown, edged with whitish on the exterior webs; the lower part of the back, the rump, tail coverts, inferior wing coverts, and sides, are bluish-ash, brighter beneath the wings. The shafts of the body feathers and tail coverts are remarkably robust, tapering rather suddenly near the tip. The tail, which consists of twelve feathers, is slightly rounded at tip, with a definite blackish band at two-thirds the length from the base, visible on both sides; before this band the color is bluish-ash, and behind dirty grayish: the tail is much lighter on the inferior surface.

This species is closely allied to *Columba caribæa* of Gmelin, with which Say stated its analogy, and also to *Columba leucocephala* of Linné.

In fact, it possesses some characters in common with each of these species, such as the band on the tail of the former, and an indication of white on the head of the latter. This character may induce some naturalists to suppose it the young of the *leucocephala*, but by a careful comparison all doubt will be removed, and it will be admitted to the rank of a distinct species.

The *caribæa* may readily be distinguished from the present species by its superior size, and by being destitute of the white band on the neck; by having a reddish bill, tipped with yellow, and dark red feet. The *leucocephala*, in the adult state, has the whole head white above; but as it is destitute of this distinction when young, acquiring it gradually as it advances in age, other discriminating characters must be employed; the tail is without a band, the bill is red with a white tip, and the feet are red.

MELEAGRIS GALLOPAVO.

WILD TURKEY.

[Plate IX. Male and Female.]

Meleagris gallopavo, LINN. *Syst.* I., p. 268, Sp. 1. GMEL. *Syst.* I., p. 732, Sp. 1. LATH. *Ind.* p. 618, Sp. 1. TEMM. *Hist. Nat. des Pig. et Gall. Index*, III., p. 676.—WILSON, *Am. Orn.* VI., Index, p. xvii. STEPHENS, *Cont. of SHAW'S Zool.* XI., part I., p. 156, pl. 8. RANZANI, *Elem. di Zool.* III., part I., p. 154.—*Meleagris sylvestris*, VIEILL. *Nouv. Dict. d'Hist. Nat.* IX., p. 447.—*Gallapavo*, ALDROVANDI, *Orn.* II., p. 35, fig. on p. 39, domestic variety, Male; fig. on p. 40, Id. Female. WILLUGBY, *Orn.* p. 113, pl. 27, fig. 4, dom. var. Male. JOHNSTON, *Theatrum Universale de Avibus*, p. 55, pl. 24, fig. 1, dom. var. Male; fig. 2, Id. Female.—BRISS. *Av.* I., p. 158, pl. 16, dom. var. Male.—*Gallus indicus*, WELSCHE Han, JOHNSTON, *Th. Av.* p. 83, pl. 29, fig. 1, dom. var. Male.—*Gallapavo sylvestris* Novæ Angliæ, a New England Wild Turkey, RAY, *Syn.* p. 51, Sp. 3.—*Gallapavo sylvestris*, CATESBY, *Carolina*, I., App. p. xlv.—*Meleagris Americanus*, the Wild Turkey, BARTR. *Trav.* p. 290.—*Gallo Pavo*, *Gallo Pavone volgarmente Pollo d'India*; *Storia degli Uccelli*, II., pl. 222, dom. crested var. Male; pl. 223, dom. white, black-spotted var. young; pl. 224, dom. white, yellowish-spotted var. young; pl. 225, dom. black var. young; pl. 226, dom. black, white-spotted var. young.—*Coc. d'Inde*, BELON, *Histoire de la Nature des Oiseaux*, p. 248, with fig. dom. var. Male.—DINDON, BUFF. *Ois.* II., p. 132, pl. 3.—*Pl. Enl.* 97, dom. whitish var. Male.—TEMM. *Hist. Nat. des Pig. et Gall.* II., p. 374. GERARDIN, *Tabl. Elem. d'Orn.* II., p. 103, pl. 21, fig. 2, dom. var. Male.—Turkie, JOSSELYN, *Voyages to New England*, p. 99.—*New England's Rarities*, p. 8. Wild Turkey, CLAYTON, *Virginia*, *Phil. Trans.* XVII., p. 992. Id. *Abrigd.* III., p. 590. LAWSON, *Carolina*, p. 149. PENN. *Phil. Trans.* LXXI., p. 67. *Arct. Zool.* Sp. 178.—*American Turkey*, LATH. *Syn.* II., part II., p. 676, Sp. 1.—*Domestic Turkey*, PENN. *Brit. Zool.* I., Sp. 97.

THE native country of the Wild Turkey extends from the north-

western territory of the United States to the Isthmus of Panama, south of which it is not to be found, notwithstanding the statements of authors, who have mistaken the Curassow for it. In Canada, and the now densely peopled parts of the United States, Wild Turkeys were formerly very abundant; but, like the Indian and Buffalo, they have been compelled to yield to the destructive ingenuity of the white settlers, often wantonly exercised, and seek refuge in the remotest parts of the interior. Although they relinquish their native soil with slow and reluctant steps, yet such is the rapidity with which settlements are extended and condensed over the surface of this country, that we may anticipate a day, at no distant period, when the hunter will seek the Wild Turkey in vain.

We have neglected no means of obtaining information from various parts of the Union, relative to this interesting bird; and having been assisted by the zeal and politeness of several individuals, who, in different degrees, have contributed to our stock of knowledge on this subject, we return them our best thanks. We have particular satisfaction in acknowledging the kindness of Mr. John J. Audubon, from whom we have received a copious narrative, containing a considerable portion of the valuable notes collected by him, on this bird, during twenty years that he has been engaged in studying Ornithology, in the only book free from error and contradiction, the great book of nature. His observations, principally made in Kentucky and Louisiana, proved the more interesting, as we had received no information from those states: we have, in consequence, been enabled to enrich the present article with several new details of the manners and habits of the Wild Turkey.

The wooded parts of Arkansas, Louisiana, Tennessee, and Alabama; the unsettled portions of the states of Ohio, Kentucky, Indiana, and Illinois; the vast expanse of territory north-west of these states, on the Mississippi and Missouri, as far as the forests extend, are more abundantly supplied, than any other parts of the Union, with this valuable game, which forms an important part of the subsistence of the hunter and traveller in the wilderness. It is not probable that the range of this bird extends to, or beyond, the Rocky Mountains; the Mandan Indians, who a few years ago visited the city of Washington, considered the Turkey one of the greatest curiosities they had seen, and prepared a skin of one, to carry home for exhibition.

The Wild Turkey is not very plenty in Florida, Georgia, and the Carolinas; is still less frequently found in the western parts of Virginia and Pennsylvania; and is extremely rare, if indeed it exists at all, in the remaining northern and eastern parts of the United States: in New England, it even appears to have been already destroyed one hundred and fifty years back. I am, however, credibly informed, that Wild Turkeys are yet to be found in the mountainous districts of Sussex

county, New Jersey. The most eastern part of Pennsylvania now inhabited by them, appears to be Lancaster county; and they are often observed in the oak woods near Philipsburg, Clearfield county. Those occasionally brought to the Philadelphia and New York markets, are chiefly obtained in Pennsylvania and New Jersey.

The Wild Turkeys do not confine themselves to any particular food; they eat maize, all sorts of berries, fruits, grasses, beetles; and even tadpoles, young frogs, and lizards, are occasionally found in their crops; but where the pecan nut is plenty, they prefer that fruit to any other nourishment: their more general predilection is, however, for the acorn, on which they rapidly fatten. When an unusually profuse crop of acorns is produced in a particular section of country, great numbers of Turkeys are enticed from their ordinary haunts in the surrounding districts. About the beginning of October, while the mast still remains on the trees, they assemble in flocks, and direct their course to the rich bottom lands. At this season, they are observed, in great numbers, on the Ohio and Mississippi. The time of this irruption is known to the Indians by the name of the *Turkey month*.

The males, usually termed *gobblers*, associate in parties numbering from ten to a hundred, and seek their food apart from the females; whilst the latter either move about singly with their young, then nearly two-thirds grown, or, in company with other females and their families, form troops, sometimes consisting of seventy or eighty individuals, all of whom are intent on avoiding the old males, who, whenever opportunity offers, attack and destroy the young, by repeated blows on the skull. All parties, however, travel in the same direction, and on foot, unless they are compelled to seek their individual safety by flying from the hunter's dog, or their march is impeded by a large river. When about to cross a river, they select the highest eminences, that their flight may be the more certain; and here they sometimes remain for a day or more, as if for the purpose of consultation, or to be duly prepared for so hazardous a voyage. During this time the males *gobble* obstreperously, and strut with extraordinary importance, as if they would animate their companions, and inspire them with the utmost degree of hardihood: the females and young also assume much of the pompous air of the males, the former spreading their tails, and moving silently around. At length the assembled multitude mount to the tops of the highest trees, whence, at a signal note from a leader, the whole together wing their way towards the opposite shore. All the old and fat ones cross without difficulty, even when the river exceeds a mile in width; but the young, meagre, and weak, frequently fall short of the desired landing, and are forced to swim for their lives: this they do dexterously enough, spreading their tails for a support, closing their wings to the body, stretching the neck forwards, and striking out quickly and forcibly with their legs.

If, in thus endeavoring to regain the land, they approach an elevated or inaccessible bank, their exertions are remitted, they resign themselves to the stream, for a short time, in order to gain strength, and then, with one violent effort, escape from the water. But in this attempt all are not successful; some of the weaker, as they cannot rise sufficiently high in air to clear the bank, fall again and again into the water, and thus miserably perish. Immediately after these birds have succeeded in crossing a river, they for some time ramble about without any apparent unanimity of purpose, and a great many are destroyed by the hunters, although they are then least valuable.

When the Turkeys have arrived in their land of abundance, they disperse in small flocks, composed of individuals of all sexes and ages intermingled, who devour all the mast as they advance; this occurs about the middle of November. It has been observed, that, after these long journeys, the Turkeys become so familiar as to venture on the plantations, and even approach so near the farm-houses as to enter the stables and corn-cribs, in search of food: in this way they pass the autumn, and part of the winter. During this season great numbers are killed by the inhabitants, who preserve them in a frozen state, in order to transport them to a distant market.

Early in March they begin to pair; and, for a short time previous, the females separate from, and shun their mates, though the latter pertinaciously follow them, uttering their gobbling note. The sexes roost apart, but at no great distance, so that when the female utters a call, every male within hearing responds, rolling note after note, in the most rapid succession; not as when spreading the tail and strutting near the near, but in a voice resembling that of the Tame Turkey, when he hears any unusual or frequently repeated noise. Where the Turkeys are numerous, the woods from one end to the other, sometimes for hundreds of miles, resound with this remarkable voice of their wooing, uttered responsively from their roosting places. This is continued for about an hour; and, on the rising of the sun, they silently descend from their perches, and the males begin to strut, for the purpose of winning the admiration of their mates.

If the call be given from the ground, the males in the vicinity fly towards the individual, and, whether they perceive her or not, erect and spread their tails, throw the head backwards, distend the comb and wattles, strut pompously, and rustle their wings and body feathers, at the same moment ejecting a puff of air from the lungs. Whilst thus occupied, they occasionally halt to look out for the female, and then resume their strutting and puffing, moving with as much rapidity as the nature of their gait will admit. During this ceremonious approach the males often encounter each other, and desperate battles ensue, when the conflict is only terminated by the flight or death of the vanquished.

This pugnacious disposition is not to be regarded as accidental, but as resulting from a wise and excellent law of nature, who always studies the good of the species without regard to the individuals. Did not females prefer the most perfect of their species, and were not the favors of beauty most willingly dispensed to the victorious, feebleness and degeneracy would soon mark the animal creation: but, in consequence of this general rule, the various races of animals are propagated by those individuals who are not only most to be admired for external appearance, but most to be valued for their intrinsic spirit and energy.

When the object of his pursuit is discovered, if the female be more than one year old, she also struts and even gobbles, evincing much desire; she turns proudly round the strutting male, and suddenly opening her wings, throws herself towards him, as if to terminate his procrastination, and, laying herself on the earth, receives his dilatory caresses. But should he meet a young hen, his strut becomes different, and his movements are violently rapid; sometimes rising in air, he takes a short circular flight, and on alighting drags his wings for a distance of eight or ten paces, running at full speed, occasionally approaching the timorous hen, and pressing her until she yields to his solicitations. Thus are they mated for the season, though the male does not confine himself exclusively to one female, nor does he hesitate to bestow his attentions and endearments on several, whenever an opportunity offers.

One or more females, thus associated, follow their favorite, and roost in his immediate neighborhood, if not on the same tree, until they begin to lay, when they change their mode of life, in order to save their eggs, which the male uniformly breaks if in his power, that the female may not be withdrawn from the gratification of his desires. At this time the females shun the males during the greater part of the day: the latter become clumsy and careless, meet each other peacefully, and so entirely cease to gobble, that the hens are obliged to court their advances, calling loudly and almost continually for them. The female may then be observed caressing the male, and imitating his peculiar gestures, in order to excite his amorousness.

The cocks, even when on the roost, sometimes strut and gobble, but more generally merely elevate the tail, and utter the *puff*, on which the tail and other feathers suddenly subside. On light or moon-shining nights, near the termination of the breeding season, they repeat this action, at intervals of a few minutes, for several hours together, without rising from their perches.

The sexes then separate; the males, being much emaciated, cease entirely to gobble, retire and conceal themselves by prostrate trees, in secluded parts of the forest, or in the almost impenetrable privacy of a cane-brake. Rather than leave their hiding places, they suffer themselves to be approached within a short distance, when they seek safety

in their speed of foot: at this season, however, they are of no value to the hunter, being meagre and covered with ticks. By thus retiring, using very little exercise, and feeding on peculiar grasses, they recover their flesh and strength, and when this object is attained, again congregate, and recommence their rambles.

About the middle of April, when the weather is dry, the female selects a proper place in which to deposit her eggs, secured from the encroachment of water, and, as far as possible, concealed from the watchful eye of the Crow: this crafty bird spies the hen going to her nest, and having discovered the precious deposit, waits for the absence of the parent, and removes every one of the eggs from the spot, that he may devour them at leisure. The nest is placed on the ground, either on a dry ridge, in the fallen top of a dead leafy tree, under a thicket of sumach or briars, or by the side of a log; it is of a very simple structure, being composed of a few dried leaves. In this receptacle the eggs are deposited, sometimes to the number of twenty, but more usually from nine to fifteen; they are whitish, spotted with reddish-brown, like those of the domestic bird. Their manner of building, number of eggs, period of incubation, &c., appear to correspond throughout the Union, as I have received exactly similar accounts from the northern limits of the Turkey range, to the most southern regions of Florida, Louisiana, and the western wilds of Missouri.

The female always approaches her nest with great caution, varying her course so as rarely to reach it twice by the same route; and, on leaving her charge, she is very careful to cover the whole with dry leaves, with which she conceals it so artfully, as to make it extremely difficult, even for one who has watched her movements, to indicate the exact spot: hence few nests are found, and these are generally discovered by fortuitously starting the female from them, or by the appearance of broken shells, scattered around by some cunning Lynx, Fox, or Crow. When laying or sitting, the Turkey hen is not readily driven from her post by the approach of apparent danger; but if an enemy appears, she crouches as low as possible, and suffers it to pass. A circumstance related by Mr. Audubon, will show how much intelligence they display on such occasions: having discovered a sitting hen, he remarked that, by assuming a careless air, whistling, or talking to himself, he was permitted to pass within five or six feet of her; but, if he advanced cautiously, she would not suffer him to come within twenty paces, but ran off twenty or thirty yards with her tail expanded, when, assuming a stately gait, she paused on every step, occasionally uttering a chuck. They seldom abandon their nests on account of being discovered by man, but should a snake or any other animal suck one of the eggs, the parent leaves them altogether. If the eggs be removed, she again seeks the male and recommences laying, though otherwise she

lays but one nest of eggs during the season. Several Turkey hens sometimes associate, perhaps for mutual safety, deposit their eggs in the same nest, and rear their broods together. Mr. Audubon once found three females sitting on forty-two eggs. In such cases, the nest is constantly guarded by one of the parties, so that no Crow, Raven, nor even Polecat, dares approach it.

The mother will not forsake her eggs, when near hatching, while life remains; she will suffer an enclosure to be made around and imprison her, rather than abandon her charge. Mr. Audubon witnessed the hatching of a brood, while thus endeavoring to secure the young and mother. "I have lain flat," says he, "within a very few feet, and seen her gently rise from the eggs, look anxiously towards them, chuck with a sound peculiar to the mother on such an occasion, remove carefully each half empty shell, and with her bill caress and dry the younglings, that already stand tottering and attempting to force their way out of the nest."

When the process of incubation is ended, and the mother is about to retire from the nest with her young brood, she shakes herself violently, picks and adjusts the feathers about the belly, and assumes a different aspect; her eyes are alternately inclined obliquely upwards and sideways; she stretches forth her neck, in every direction, to discover birds of prey or other enemies; her wings are partially spread, and she softly clucks to keep her tender offspring close to her side. They proceed slowly, and, as the hatching generally occurs in the afternoon, they sometimes return to pass the first night in the nest. While very young, the mother leads them to elevated dry places, as if aware that humidity, during the first few days of their life, would be very dangerous to them, they having then no other protection than a delicate, soft, hairy down. In very rainy seasons Wild Turkeys are scarce, because, when completely wetted, the young rarely survive.

At the expiration of about two weeks, the young leave the ground on which they had previously reposed at night under the female, and follow her to some low, large branch of a tree, where they nestle under the broadly curved wings of their vigilant and fostering parent. The time then approaches in which they seek the open ground or prairie land during the day, in search of strawberries, and subsequently of dewberries, blackberries, and grasshoppers, thus securing a plentiful food, and enjoying the influence of the genial sun. They frequently dust themselves in shallow cavities of the soil or on ant-hills, in order to clean off the loose skin of their growing feathers, and rid themselves of ticks and other vermin.

The young Turkeys now grow rapidly, and in the month of August, when several broods flock together, and are led by their mothers to the forest, they are stout and quite able to secure themselves from the unex-

pected attacks of Wolves, Foxes, Lynxes, and even Cougars, by rising quickly from the ground, aided by their strong legs, and reaching with ease the upper limbs of the tallest tree. Amongst the numerous enemies of the Wild Turkey, the most dreaded are the large diurnal and nocturnal birds of prey, and the Lynx (*Felis rufa*), who sucks their eggs, and is extremely expert at seizing both parent and young: he follows them for some distance, in order to ascertain their course, and then, making a rapid circular movement, places himself in ambush before them, and waits until, by a single bound, he can fasten on his victim.

The following circumstance is related by Bartram: "Having seen a flock of Turkeys at some distance, I approached them with great caution; when, singling out a large cock, and being just on the point of firing, I observed that several young cocks were affrighted, and in their language warned the rest to be on their guard against an enemy, who I plainly perceived was industriously making his subtile approaches towards them, behind the fallen trunk of a tree, about twenty yards from me. This cunning fellow-hunter was a large fat Wild Cat, or Lynx; he saw me, and at times seemed to watch my motions, as if determined to seize the delicious prey before me; upon which I changed my object, and levelled my piece at him. At that instant my companion, at a distance, also discharged his piece, the report of which alarmed the flock of Turkeys, and my fellow-hunter, the Cat, sprang over the log, and trotted off."

These birds are guardians of each other, and the first who sees a Hawk or Eagle gives a note of alarm, on which all within hearing lie close to the ground. As they usually roost in flocks, perched on the naked branches of trees, they are easily discovered by the large Owls, and, when attacked by these prowling birds, often escape by a somewhat remarkable manœuvre. The Owl sails around the spot to select his prey; but, notwithstanding the almost inaudible action of his pinions, the quick ear of one of the slumberers perceives the danger, which is immediately announced to the whole party by a *chuck*; thus alarmed, they rise on their legs, and watch the motions of the Owl, who, darting like an arrow, would inevitably secure the individual at which he aimed, did not the latter suddenly drop his head, squat, and spread his tail over his back; the Owl then glances over without inflicting any injury, at the very instant that the Turkey suffers himself to fall headlong towards the earth, where he is secure from his dreaded enemy.

On hearing the slightest noise, Wild Turkeys conceal themselves in the grass, or among shrubs, and thus frequently escape the hunter, or the sharp-sighted birds of prey. The sportsman is unable to find them during the day, unless he has a dog trained for the purpose; it is necessary to shoot them at a very short distance, since, when only wounded, they quickly disappear, and, accelerating their motion by a sort of half

flight, run with so much speed, that the swiftest hunter cannot overtake them. The traveller, driving rapidly down the declivity of one of the Alleghanies, may sometimes see several of them before him, that evince no urgent desire to get out of the road; but, on alighting, in hopes of shooting them, he soon finds that all pursuit is vain.

In the spring, when the males are much emaciated by their attendance on the females, it sometimes may happen that, in cleared countries, they can be overtaken by a swift cur-dog, when they will squat, and suffer themselves to be caught by the dog, or hunter who follows on horseback. But from the knowledge we have gained of this bird, we do not hesitate to affirm, that the manner of running down Turkeys, like Hares or Foxes, so much talked of, is a mere fable, as such a sport would be attended with very trifling success. A Turkey hound will sometimes lead his master several miles, before he can a second time *flush* the same individual from his concealment; and even on a fleet horse, after following one for hours, it is often found impossible to *put it up*. During a fall of melting snow, Turkeys will travel extraordinary distances, and are often pursued in vain by any description of hunters; they have then a long, straddling manner of running, very easy to themselves, but which few animals can equal. This disposition for running, during rains, or humid weather, is common to all gallinaceous birds.

The males are frequently decoyed within gunshot, in the breeding season, by forcibly drawing the air through one of the wing bones of the Turkey, producing a sound very similar to the voice of the female: but the performer on this simple instrument must commit no error, for Turkeys are quick of hearing, and, when frequently alarmed, are wary and cunning. Some of these will answer to the call without advancing a step, and thus defeat the speculations of the hunter, who must avoid making any movement, inasmuch as a single glance of a Turkey may defeat his hopes of decoying them. By imitating the cry of the Barred Owl (*Strix nebulosa*), the hunter discovers many on their roosts, as they will reply by a gobble to every repetition of this sound, and can thus be approached with certainty, about daylight, and easily killed.

Wild Turkeys are very tenacious of their feeding grounds, as well as of the trees on which they have once roosted. Flocks have been known to resort to one spot for a succession of years, and to return after a distant emigration in search of food. Their roosting place is mostly on a point of land jutting into a river, where there are large trees. When they have collected at the signal of a repeated gobbling, they silently proceed towards their nocturnal abodes, and perch near each other: from the numbers sometimes congregated in one place, it would seem to be the common rendezvous of the whole neighborhood. But no position, however secluded or difficult of access, can secure them from

the attacks of the artful and vigilant hunter, who, when they are all quietly perched for the night, takes a stand previously chosen by daylight; and, when the rising moon enables him to take sure aim, shoots them down at leisure, and, by carefully singling out those on the lower branches first, he may secure nearly the whole flock, neither the presence of the hunter, nor the report of his gun, intimidating the Turkeys, although the appearance of a single Owl would be sufficient to alarm the whole troop: the dropping of their companions from their sides excites nothing but a buzzing noise, which seems more expressive of surprise than fright. This fancied security, or heedlessness of danger, while at roost, is characteristic of all the gallinaceous birds of North America.

The more common mode of taking Turkeys is by means of *pens*, constructed with logs, covered in at top, and with a passage in the earth under one side of it, just large enough to admit an individual when stooping. The ground chosen for this purpose is generally sloping, and the passage is cut on the lower side, widening outwards. These preparations being completed, Indian corn is strewed for some distance around the pen, to entice the flock, which, picking up the grain, is gradually led towards the passage, and thence into the enclosure, where a sufficient quantity of corn is spread to occupy the leader until the greater part of the Turkeys have entered. When they raise their heads and discover that they are prisoners, all their exertions to escape are directed upwards and against the sides of the pen, not having sagacity enough to stoop sufficiently low to pass out by the way they entered; and thus they become an easy prey, not only to the experienced hunter, but even to the boys on the frontier settlements.

In proportion to the abundance or scarcity of food, and its good or bad quality, they are small or large, meagre or fat, and of an excellent or indifferent flavor: in general, however, their flesh is more delicate, more succulent, and better tasted, than that of the Tame Turkey: they are in the best order late in the autumn, or in the beginning of winter. The Indians value this food so highly, when roasted, that they call it "the white man's dish," and present it to strangers as the best they can offer. It seems probable, that in Mexico the Wild Turkey cannot obtain such substantial food as in the United States, since Hernandez informs us that their flesh is harder, and, in all respects, inferior to that of the domestic bird.

The Indians make much use of their tails as fans; the women weave their feathers with much art, on a loose web made of the rind of the Birch tree, arranging them so as to keep the down on the inside, and exhibit the brilliant surface to the eye. A specimen of this cloth was in the Philadelphia Museum; it was found enveloping the body of an Indian female, in the great Saltpetre cave of Kentucky.

Among the benefits conferred by America on the rest of the world, the gift of this noble bird should occupy a distinguished place, as unquestionably one of the most useful of the feathered tribe, being capable of ministering largely to the sustenance and comfort of the human race. Though the Turkey is surpassed in external beauty by the magnificent Peacock, its flesh is greatly superior in excellence, standing almost unrivalled for delicacy of texture and agreeable sapidity. On this account, it has been eagerly sought by almost all nations, and has been naturalized with astonishing rapidity throughout the world, almost universally constituting a favorite banquet dish.

The Turkey, belonging originally to the American continent, was necessarily unknown to the ancients, who, in this as in a thousand other instances, were deficient in our most common and essential articles of food. Readers unacquainted with the fact may well be surprised to learn, that, although the introduction of this bird into Europe is comparatively modern, its origin has been already lost sight of, and that eminent naturalists of the last century, who lived so much nearer to the time of its first appearance, have expressed great uncertainty concerning its native country. Thus Belon, Aldrovandi, Gessner, Ray, &c., thought that it came originally from Africa and the East Indies, and endeavored to recognise it in some of the domestic birds of the ancients. Belon and Aldrovandi supposed it to have been mentioned by ancient authors, but they mistook for it the *Numida meleagris* of Linné, which is actually an African bird, now almost naturalized in America, even in a wild state; so that it would be apparently more reasonable for America to regard that bird as indigenous, than that the old continent should lay claim to the Turkey. In so soon losing sight of the origin of this bird, we see a strong exemplification of the ungrateful disposition of man, who can durably treasure up the memory of wrongs and injuries, but fails to recollect the greatest benefits he has received. It would be loss of time to combat the arguments advanced by authors, who have deceived themselves, in attempting to deprive America of her just title to this bird, since they have been fully refuted by the eloquent Buffon; but we may here introduce a sketch of its progress from America throughout Europe.

The first unquestionable description of the Turkey was written by Oviedo, in 1525, in the summary of his History of the Indies. This bird was sent from Mexico to Spain early in the sixteenth century; from Spain it was introduced into England in 1524. Turkeys were taken to France in the reign of Francis the First, whence they spread into Germany, Italy, &c.; a few, however, had been carried to the latter country, by the Spaniards, some years previously. The first Turkey eaten in France, appears to have been served up at the wedding banquet of Charles the Ninth, in the year 1570. Since that period, they

have been bred with so much care, that in England, as we read in ancient chronicles, their rapid increase rendered them attainable at country feasts, where they were a much esteemed dish, as early as 1585. Europeans conveyed them to all their colonies, and thus were they gradually introduced into Asia, Africa, and even Oceanica.

The French distinguished them by the name of *Coq et Poule d'Inde*, (Cock and Hen from India), because they were natives of the West Indies; subsequently, for the sake of brevity, they called them *Dindon*, an appellation which is yet retained. The English name is still worse, as it conveys the false idea that the Turkey originated in Asia, owing to the ridiculous habit, formerly prevalent, of calling every foreign object by the name of Turk, Indian, &c.

Although the Turkey is generally considered a stupid bird, it is probable that his intellectual qualifications have not been fairly appreciated, as he is susceptible of very lively emotions. If any new and remarkable object attracts the attention of the male, his whole appearance and demeanor undergo a sudden and extraordinary change: relinquishing his peaceful aspect, he boldly raises himself, his head and neck become turgid, and the wattles, from an influx of blood, glow with vivid red; he bristles up the feathers of the neck and back, his tail is vertically raised and expanded like a fan, and the wing feathers are extended until they touch the ground. Thus transformed, he utters a low, humming sound, and advances with a grave and haughty strut, occasionally accelerating his steps, and, at the same time, rubbing the tips of the primary feathers violently against the earth. During these manœuvres, he now and then utters a harsh, interrupted, and dissonant note, apparently expressive of the highest degree of rage: this cry, sounding like *rook*; *oorook*, *oorook*, will be repeated at the pleasure of any person who should whistle, or strike the ear of the bird by any other acute or unusual sound. The appearance of any red cloth is sure to awaken his anger, and induce him to rush fearlessly on the disagreeable object, exerting all his power to injure or destroy it.

In connection with the peculiar character of this bird, we may advantageously quote the sentiments of the great Franklin, who expressed a regret that the Turkey should not have been preferred to the Bald Eagle as an emblem of the United States. Certainly this Eagle is a tyrannical and pusillanimous bird, by no means an appropriate representative of a great and magnanimous nation, as was the Eagle chosen by the Romans.

"Others object to the Bald Eagle," says Franklin, in one of his letters, "as looking too much like a *Dindon*, or Turkey. For my own part, I wish the Bald Eagle had not been chosen as the representative of our country; he is a bird of bad moral character; he does not get his living honestly; you may have seen him perched on some dead tree,

where, too lazy to fish for himself, he watches the labor of the Fishing Hawk; and when that diligent bird has at length taken a fish, and is bearing it to his nest for the support of his mate and young ones, the Bald Eagle pursues him, and takes it from him. With all this injustice he is never in good case, but, like those among men who live by sharpening and robbing, he is generally poor, and often very lousy. Besides, he is a rank coward; the little King-bird, not bigger than a Sparrow, attacks him boldly, and drives him out of the district. He is, therefore, by no means a proper emblem for the brave and honest Cincinnati of America, who have driven all the *King-birds* from our country; though exactly fit for that order of knights which the French call *Chevaliers d'Industrie*. I am, on this account, not displeased that the figure is not known as a Bald Eagle, but looks more like a Turkey. For in truth the Turkey is, in comparison, a much more respectable bird, and withal a true original native of America. Eagles have been found in all countries, but the Turkey was peculiar to ours. He is, besides (though a little vain and silly, 'tis true, but not the worse emblem for that), a bird of courage, and would not hesitate to attack a grenadier of the British guards, who should presume to invade his farm-yard with a red coat on."

But, since the choleric temper and vanity of the Tame Turkey are proverbial in various languages, in some of which its very name is opprobrious, and often applied in derision to vainglorious and stupid people, we are better satisfied that its effigy was not placed in the escutcheon of the United States.

Those who have not observed the Turkey in its wild state, have only seen its deteriorated progeny, which are greatly inferior in size and beauty. So far from having gained by the care of man, and the abundance of food accessible in its state of domestication, this bird has degenerated not only in Europe and Asia, but, what is certainly extraordinary, even in its native country. The domesticated Turkey of America, accustomed as it is to roam in the woods and open fields almost without restraint, is in no respect superior to that of the European poultry-yard. I have, however, seen several very beautiful ones from Lancaster county, Pennsylvania, and Sussex county, New Jersey, that were said to be a cross-breed between the wild cock and tame hen. This crossing often occurs in countries where Wild and Tame Turkeys are found; it is well known that they will readily approach each other; and such is the influence of slavery even upon the Turkey, that the robust inhabitant of the forest will drive his degenerate kinsfolk from their own food, and from their females, being generally welcomed by the latter and by their owners, who well know the advantages of such a connection. The produce of this commixture is much esteemed by epicures, uniting the luscious obesity of the one, with the wild flavor of the other.

A gentleman, residing in Westchester county, New York, a few years since procured a young female Wild Turkey, in order to make the experiment of crossing the breed; but, owing to some circumstance, it did not succeed, and in the ensuing spring this female disappeared. In the following autumn she returned, followed by a large brood; these were quite shy, but, by a little management, they were secured in a coop, and the mother allowed her liberty: she remained on the farm until the succeeding spring, when she again disappeared, and returned in autumn with another brood. This course she has repeated for several successive years.

Eggs of the Wild Turkey have been frequently taken from their nests and hatched under the tame hen; the young preserve a portion of their uncivilized nature, and exhibit some knowledge of the difference between themselves and their foster-mother, roosting apart from the tame ones, and in other respects showing the force of hereditary disposition. The domesticated young, reared from the eggs of the Wild Turkey, are often employed as decoy-birds to those in a state of nature. Mr. William Bloom, of Clearfield, Pennsylvania, caught five or six Wild Turkeys, when quite chickens, and succeeded in rearing them. Although sufficiently tame to feed with his Tame Turkeys, and generally associate with them, yet they always retained some of their original propensities, roosting by themselves, and higher than the tame birds, generally on the top of some tree, or of the house. They were also more readily alarmed; on the approach of a dog they would fly off, and seek safety in the nearest woods. On an occasion of this kind, one of them flew across the Susquehanna, and the owner was apprehensive of losing it; in order to recover it, he sent a boy with a Tame Turkey, which was released at the place where the fugitive had alighted. This plan was successful; they soon joined company, and the tame bird induced his companion to return home. Mr. Bloom remarked, that the Wild Turkey will thrive more, and keep in better condition, than the Tame, on the same quantity of food.

Besides the above-mentioned half breed, some domesticated Turkeys, of a very superior metallic tint, are sold in the Philadelphia and New York markets as wild ones. Many of these require a practised eye to distinguish their true character, but they are always rather less brilliant, and those I examined had a broad whitish band at the tip of the tail coverts, and another at the tip of the tail itself, which instantly betrayed their origin, the wild ones being entirely destitute of the former, and the band on the tip of the tail being neither so wide nor so pure.

In the following description we give the generic as well as the specific characters of the Wild Turkey, in order to make it complete.

The male Wild Turkey, when full grown, is nearly four feet in length,

and more than five in extent. The bill is short and robust, measuring two inches and a half to the corner of the mouth; it is reddish, and horn color at tip; the superior mandible is vaulted, declining at tip, and overhangs the inferior, being longer and wider; it is covered at base by a naked cere-like membrane, in which the nostrils are situated, they being half closed by a turgid membrane, and opening downwards; the inferior mandible slightly ascends towards the tip: the aperture of the ear is defended by a fascicle of small, decomposed feathers; the tongue is fleshy and entire; the irides are dark brown. The head, which is very small in proportion to the body, and half of the neck, are covered by a naked bluish skin, on which are a number of red wart-like elevations on the superior portion, and whitish ones on the inferior, interspersed with a few scattered, black, bristly hairs, and small feathers, which are still less numerous on the neck; the naked skin extends farther downwards on the inferior surface of the neck, where it is flaccid and membranous, forming an undulating appendage, on the lower part of which are cavernous elevations or *wattles*. A wrinkled, fleshy, conic, extensible caruncle, hairy and penicillated at tip, arises from the bill at its junction with the forehead; when the bird is quiescent, this process is not much more than an inch and a half long; but when he is excited by love or rage, it becomes elongated, so as to cover the bill entirely, and depend two or three inches below it. The neck is of a moderate length and thickness, bearing on its inferior portion a pendent fascicle of black, rigid hairs, about nine inches long. The body is thick, somewhat elongated, and covered with long, truncated feathers; these are divided into very light fuliginous down at base, beyond which they are dusky; to this dusky portion succeeds a broad, effulgent, metallic band, changing now to copper color or bronze-gold, then to violet or purple, according to the incidence of light, and at tip is a terminal, narrow, velvet-black band, which does not exist in the feathers of the neck and breast; the lower portion of the back, and the upper part of the rump, are much darker, with less brilliant golden-violaceous reflections; the feathers of the inferior part of the rump have several concealed, narrow, ferruginous, transverse lines, then a black band before the broad metallic space, which is effulgent coppery; beyond the terminal narrow black band is an unpolished bright bay fringe. The upper tail coverts are of a bright bay color, with numerous narrow bars of shining greenish; all these coverts are destitute of the metallic band, and the greater number have not the black subterminal one; the vent and thighs are plain brownish-cinereous, intermixed with paler; the under tail coverts are blackish, glossed with coppery towards the tip, and at tip are bright bay.

The wings are concave and rounded, hardly surpassing the origin of the tail; they have twenty-eight quill feathers, of which the first is

shortest, and the fourth and fifth longest, the second and ninth being nearly equal; the smaller and middling wing coverts are colored like the feathers of the body; the greater coverts are copper-violaceous, having a black band near the whitish tip; their concealed web is blackish, sprinkled with dull ferruginous: in old birds the exterior web is much worn by friction amongst the bushes, in consequence of which those feathers exhibit a very singular unwebbed, curved appearance, faithfully represented in the plate. The spurious wing, the primary coverts, and the primaries, are plain blackish, banded with white, which is interrupted by the shaft, and sprinkled with blackish; the secondaries have the white portion so large, that they may as well be described as white, banded with blackish, and are moreover tinged with ferruginous-yellow; this color gradually encroaches on the white, and then on the blackish, in proportion as the feathers approach the body, so that the tertials are almost entirely of that color, being only sprinkled with blackish, and having metallic reflections on the inner web; the anterior under wing coverts are brownish-black, the posterior ones being gray. The tail measures more than a foot and a quarter, is rounded, and composed of eighteen wide feathers; it is capable of being expanded and elevated, together with the superior tail coverts, so as to resemble a fan, when the bird parades, struts, or wheels. The tail is ferruginous, mottled with black, and crossed by numerous narrow, undulated lines, of the same color, which become confused on the middle feathers; near the tip is a broad black band, then the feathers are again mottled for a short distance, and are widely tipped with ferruginous-yellow.

The feet are robust and somewhat elongated; the tarsus measures more than six inches in length, being covered before by large alternate pentagonal plates, and furnished, on the inner posterior side, with a rather obtuse, robust, compressed spur, nearly one inch long. The toes are three before, connected at base by a membrane, and one behind, touching the ground only at tip, being articulated higher on the tarsus than the others, and one-half shorter than the lateral toes, which are equal; the middle toe is more than four inches long, and the posterior but little more than one inch; they are all covered by entire plates; the sole is granulated: the color of the feet is red, the margins of the plates and scales, the membrane and nails being blackish; the nails are oblong, wide, obtuse at tip, rounded above, and perfectly plain beneath.

The female, or hen Turkey, is considerably smaller in size, being three feet and a quarter long. The bill and feet resemble those of the male, but are proportionally smaller, the latter being destitute of even a rudiment of spur: the irides are like those of the male. The head and neck are not so naked as in that sex, but are covered by small decomposed feathers, of a dirty grayish color; those of the back of the

neck are tipped with ferruginous, constituting a longitudinal vitta on that part; the caruncle on the frontlet is rudimental, not susceptible of being elongated; the pectoral appendage is entirely wanting in our specimen. The general plumage is dusky-gray, each feather having a metallic band, less brilliant than that of the male, then a blackish band, and a grayish terminal fringe; the black subterminal band is obsolete on the feathers of the neck, and of the whole inferior surface; those of the latter part, with the feathers of the lower portion of the back, of the rump, and the flanks, have their tips yellowish-ferruginous, becoming gradually brighter towards the tail. The vent and thighs are dirty yellowish-gray, without any reflections; the under tail coverts are tipped, and varied with rather deep ferruginous; the superior tail coverts are like those of the male, but duller, and tipped with a broad, whitish-ferruginous fringe. The wings are also duller, each covert being tipped with grayish; less white exists on the primaries, the bands being narrower, and the secondaries entirely destitute of them. The tail is similar in color to that of the male. It is proper to remark, that the female which furnished the above description, and is figured in the plate, though certainly adult, had not attained to its full size and perfect beauty. It was procured in the month of March, on St. John's river, Florida.

The young of both sexes resemble each other so closely, before the naked membrane acquires its tinge of red, as to be scarcely distinguishable; the females, however, when a few days old, are somewhat larger than the males, and have a weaker piping note; the males then begin to stand higher on their legs, which are stronger than those of the females, and soon exhibit the rudiments of spurs. On the approach of the first winter, the young males show a rudiment of the beard or fascicle of hairs on the breast, consisting of a mere tubercle, and attempt to strut and gobble; the second year the hairy tuft is about three inches long; in the third the Turkey attains its full stature, although it certainly increases in size and beauty for several years longer. In a fine male specimen, evidently young, which I obtained in the Philadelphia market, the plumage is equally brilliant with that of the finest adult, although the frontal caruncle is only one inch in length, the pectoral appendage two inches, and the spur merely rudimental. The concealed portion of the plumage on the anterior part of the back is sprinkled with pale ferruginous, which disappears as the bird advances in age.

Females of four years old have their full size and coloring; they then possess the pectoral fascicle, four or five inches long (which, according to Mr. Audubon, they exhibit a little in the second year, if not barren), but this fascicle is much thinner than that of the male. The barren hens do not obtain this distinction until a very advanced age; and, being preferable for the table, the hunters single them from the

flock, and kill them in preference to the others. The female Wild Turkey is more frequently furnished with the hairy tuft than the Tame one, and this appendage is gained earlier in life. The great number of young hens without it, has no doubt given rise to the incorrect assertion of a few writers, that the female is always destitute of it.

The weight of the hen generally averages about nine pounds avoirdupois. Mr. Audubon has shot barren hens, in strawberry time, weighing thirteen pounds; and he has seen some few so fat as to burst open by falling from a tree, after being shot. The male Turkeys differ more in bulk and weight: from the accounts I have received from various parts of the Union, fifteen or twenty pounds may be considered a fair statement of their medium weight; but birds of thirty pounds are not very rare; and I have ascertained the existence of some weighing forty. In relation to those surpassing the last-mentioned weight, according to the report of authors who do not speak from personal observation, I have not been able to find any, and am inclined to consider them as fabulous. Mr. Audubon informs us, he saw one in the Louisville market that weighed thirty-six pounds; the pectoral appendage of this bird measured more than a foot in length. Bartram describes a specimen of remarkable size and beauty, reared from an egg found in the forest, and hatched by a common hen: when this Turkey stood erect, the head was three feet from the ground. The animal was stately and handsome, and did not seem insensible of the admiration he excited.

Our plate, which is the first that has been given of the Wild Turkey, represents both sexes, reduced to one-third of their natural size; the male was selected from among many fine specimens, shot in the month of April, near Engineer Cantonment, on the Missouri. It weighed twenty-two pounds; but, as the males are very thin at that season,* when in good order it must have weighed much more.

Though comparatively recent, the domestic state of the Turkey has been productive of many varieties; we need not, therefore, be surprised at the existence of numerous and remarkable differences in those animals which have been domesticated from time immemorial. The most striking aberration from the standard of the species, is certainly the tufted Turkey, which is very rare, the crest being white in some specimens, and black in others. Tame Turkeys sometimes occur of an immaculate black color; others are exclusively white; some are speckled or variegated; and all these varieties are continued by propagation, under analogous circumstances. In the wild state, a white, or even a

* The extraordinary leanness of this bird, at particular seasons of the year, has become proverbial in many Indian languages. An *Omarhaw*, who wishes to make known his abject poverty, says, "*Wah pawne zezecah ha go ba*;" "I am as poor as a Turkey in summer."

speckled Turkey, is unknown; and we may venture to say, that a plain black one has hardly ever occurred.

Mochring proposed the name of *Cynchramus* for this genus, as the term *Meleagris* was used by the ancients to indicate a different bird: all other naturalists have agreed with Linné, who, though fully aware of the fact, made use of the name we have adopted. But he included in the genus two allied species, which Gmelin very properly rejected, and placed in a separate genus, which he called *Penelope*, considering the Turkey as *sui generis*. Latham again rendered the genus unnatural, by restoring one of the objectionable Linnean species, perceiving that it was not properly placed in *Penelope*; it is, in truth, a *Phasianus*. As now characterized, the present genus is exclusively American; and, by the discovery of a beautiful species closely allied to that of the United States, it now consists of two species. The Ocellated Turkey (*Meleagris oculata*) inhabits Honduras, and may be distinguished from the common species by its smaller size, more brilliant plumage, and principally by having ocellated spots on the tail. It was first described by Cuvier, and has lately been figured in that magnificent periodical work, the "Planches Coloriées" of Temminck and Laugier. A beautiful specimen has long been exhibited in the Charleston Museum.

Mr. Duponceau, so well known by his philological researches, has favored us with the following table of names for the Wild Turkey, in the different Indian languages:

E. English Pronunciation.—F. French.—S. Spanish.—G. German.

Algonkin	Mississay, E.	Mackenzie.
Adayes	Owachuk, S.	MS. Voc.
Atacapas	Skillig, S.	MS. Voc.
Caddoes	Noe, E.	Dr. Sibley.
Chetimachas	Tsante hatineche hase, S.	MS. Voc.
Cherokee	Kainna; Ocoocoo, E.	MS. Voc.
Chickasaws	Fukit, E.	MS. Voc.
Choctaws	Oopuh, E.	MS. Voc.
Creeks	Pinewau, E.	MS. Voc.
Delaware proper	Tschikenum, G.	Heckewelder and Zeis- berger.
Delaware of New Jersey	Tshikuuna, E.	MS. Voc.
Delaware of New Sweden	Sickenem (Swedish)	Luther's Catechism.
Huron	Ondetontak, F.	Père Sagard.
Wyandot (same people) .	Daigh-ton-tah, E.	Attwater in Archæol. Amer.
Illinois	Pireouah, F.	MS. Voc.
Knisteneaux	Mes-sey-thew, E.	Mackenzie.
Miamis	Pilaoh	MS. Voc.
Nenticoke	Pahquun, E.	MS. Voc.
Nottoway*	Kunum, E.	MS. Voc.

* Indians of Virginia, a branch of the Tuscaroras.

Omawhaw (a branch of			
Sioux)	Ze-ze-kah, E.	Say.	
Onondagos (Iroquois) .	Netachróchwa gatschinak, Zeisberger's Dictionary,		
	G.	MS.	
Osage { cock	Sukah tingah, E.	MS. Voc.	
{ hen	Inchuga Sukah, E.	MS. Voc.	
Ottos or Wahtoktatah			
(Sioux)	Wa-ek-kung-ja, E.	Say.	
Shawanese	Peléwa, G.	Heckewelder.	
Uchee*	Witch-pshah, E.	MS. Voc.	
Unquachog (Long Island)	Nahiam, E.	MS. Voc.	

FALCO COOPERII.

COOPER'S HAWK.

[Plate X. Fig. 1.]

BUFFON complained of the difficulty of writing a history of Birds, because he already knew eight hundred species, and supposed that there might actually exist fifteen hundred; or even, said he, venturing as he thought to the limit of probability, two thousand! What then would be his embarrassment at present, when nearly six thousand species are known, and fresh discoveries are daily augmenting the number?

The difficulties attending a general work on this subject are not perhaps experienced in an equal degree by one who confines himself to the history of a particular group, or of the species inhabiting a single district. Nevertheless, in a work like the present, which is not a monography limited to one genus or family, but embraces within its scope species belonging to all the different tribes, it is requisite, in order to explain their various relations and analogies, that the author should be more or less acquainted with the whole system of nature. To attempt, without the aid of methodical arrangement, a subject so vast, and apparently unlimited, would be hopeless. Hence the importance of a correct system of classification; and the construction of one which shall exhibit, as far as practicable, the true affinities of objects, has exercised the attention of the most powerful minds, that have been employed in the study of nature.

That division of the feathered class popularly called Birds of prey, has always been recognised as a separate, and well defined group. In

* *Uchees*, a nation of Florida Indians, speaking a curious language, full of particular sounds, not found in any other languages; they live among the Creeks.

the Linnean system they form the order ACCIPITRES, and were, by that father of the science, distributed into three great natural divisions, which comprise nearly, if not quite, one-fifteenth part of all the known species of birds. The ulterior arrangement of one of these groups, the genus *Falco* of Linné, at present composed of between two and three hundred species, has much divided the opinions of naturalists. From the majestic Eagle, the terror of the husbandman, to the feeblest Hawk, preying on grasshoppers, it is undeniable that there exists in all these birds, a great resemblance in some of the most prominent characteristics; which, being found to predominate in the Fish-hawk, as well as the Kite, and all other species of the Falcon tribe, however dissimilar, indicate their separation as a peculiar family from all other birds. But that they are susceptible of division into smaller groups of inferior rank, no practical ornithologist will for a moment deny. Whether these minor groups shall be considered as trivial and secondary, or whether some of them ought not to be admitted as distinct and independent genera, is a question that has been much agitated, and respecting which, ornithologists will probably for a long time continue to disagree. Equally great authorities might be cited in favor of either of these opinions, which like many others of more importance that have divided mankind from the beginning of the world, may perhaps after all be considered as merely a dispute about words.

Admitting, however, as seems to be done by all parties, that this great genus may be subdivided with propriety, we look upon it as altogether a secondary question, whether we shall call the minor groups genera, subgenera, or sections; and we deem it of still less consequence, in a philosophical view, whether the names by which these groups are designated, be taken from a learned, or a vernacular language. It is our intention to pursue a middle course. We are convinced of the necessity of employing numerous subdivisions, not only in this, but also in its allied genus *Strix*. These, however, we cannot agree to admit as genera, preferring to call them subgenera, and giving them a name; but when having occasion to mention a species belonging to any of them, to employ the name of the great genus.

The desire of avoiding too great a multiplication of groups, has caused some, even of the first ornithologists of our time, to employ sections that are not natural, and with false or inapplicable characters; and, as if they would compel nature to conform to their preconceived and narrow views, after having assigned decided limits to their groups, to force into them species not only widely different, but that do not even possess the artificial character proposed. We shall not imitate this irrational example. It shall rather be our object to compose natural groups, and, in obedience to this principle, whenever we meet with a group, or even a single species, clearly insulated, it shall at

least be pointed out; not so much regarding the number of our subgenera, as the characters that unite the species of which they are respectively composed.

It is objected to the numerous subdivisions that have been proposed in our day, that they pass into, and blend insensibly with each other. This is no doubt true; but is it not the same with regard to natural groups of every denomination? It is this fact which has induced us to consider them as subgenera, and not as distinct genera. We are told, however, by the advocates for numerous genera, that in giving a name we adopt a genus; but we do not see that this necessarily follows.

There are, we confess, other grounds on which we might be attacked with more advantage. We may perhaps be charged with inconsistency in refusing to admit as the foundation of generic groups in the *Rapaces*, characters, which are allowed, not only by ourselves, but by some of those who are most strenuously opposed to the multiplication of genera, to have quite sufficient importance for such distinction in other families. With what propriety, it might be asked, can we admit *Hydrobates* (*Fuligula*, Nob.), as distinct from *Anas*, and the various genera that have been dismembered from *Lanius*, at the same time that we reject, as genera, the different groups of Hawks? To this we can only reply, that we are ourselves entirely convinced, that all the subgenera adopted in our Synopsis among the *Falcones* of North America, are quite as distinct from each other as *Coccyzus* and *Cuculus*, or *Corvus* and *Garrulus*. The latter genus we have admitted after Temminck, who is opposed to new genera among the Hawks; though *Astur* and *Elanus* certainly require to be separated, no less than the two genera that Temminck himself has established in the old genus *Vultur*.

No living naturalist (with the exception of those, who, through a sort of pseudo-religious feeling, will only admit as genera, groups indicated as such by Linné) has adhered longer than ourselves, to large genera; at the same time that we could not deny the existence of subordinate natural groups. We will not pretend to deny that these are of equal rank with some recognised as genera in other families; and we can only say, that we consider it doubtful, in the present unsettled state of the science, what this rank ought to be. We therefore, in the instances above quoted, consider it of little importance, whether these groups be considered as genera or subgenera.

But what is certainly of great importance, is, to preserve uniformity in all such cases; to make co-ordinate divisions, and give corresponding titles to groups of equal value. This uniformity, however desirable, cannot, in the actual state of ornithology, be easily attained; and we have decided, after much hesitation, to continue to employ subgenera. In doing this, we are moreover influenced by the great difficulty that is met with, in some cases, in determining the proper place of a species par-

taking of the characters of several groups, yet not in the least deserving to be isolated; such as *Falco borealis*, which is almost as much an *Astur* as a *Buteo*, and has been placed by authors, according to their different views, in both those groups.

An extensive reform is evidently needed in the department of classification that relates to genera; and we propose, with this view, to undertake at some future period a general work, when, erecting our system on a more philosophical basis, though we may restrict some, and enlarge other genera, we shall in the instances to which we have alluded, as well as in a multitude of others, at least place them all on an equal footing.

Among the several groups into which the Falcon tribe is divided, we come to one composed of about sixty species, well marked, and, if kept within its proper bounds, very natural; to which authors have variously applied the name of *Accipiter*, *Sparvius*, and *Astur*, which last we have adopted.

Found in all parts of the globe, and destroying everywhere great numbers of birds and small quadrupeds, the Hawks (by which English name we propose to distinguish this group more particularly) closely resemble each other in color and changes of plumage, especially the North American and European species. They are eminently distinguished from all other Falcons by their short wings, not reaching by a considerable length to the tip of their tail, which is even, or but very slightly rounded; and by their first quill feather or primary, which is very short, while the fourth is constantly the longest. Their bill, suddenly curved from the base, is very strong and sharp; their head is narrowed before, with the eyes placed high, large, and fiery. Their feet are very long, and the toes especially, the middle one of which is much the longest, and all are armed with very strong sharp talons, well seconding the sanguinary nature of these fierce creatures; their outer toe is connected at base by a membrane to the middle one. The female is always one-third larger than the male, and the plumage of both, is, in most species, dark above and white beneath; in the adult barred with reddish or dusky. In the young bird the color is lighter, the feathers skirted with ferruginous, and the white of the under parts streaked longitudinally with dusky, instead of being barred. The tail is uniform in color with the back, with almost always a few broad bands of black, and sometimes of white, and a whitish tip.

The Hawks (*Astures*) combine cunning with agility and strength. Sudden and impetuous in their movements, they make great havoc, especially among birds that keep in flocks, as Pigeons, Blackbirds, &c., and are the terror of the poultry-yard. Fearless and sanguinary, they never feed, even when pressed by hunger, except on red and warm-blooded animals, whose quivering limbs they tear with savage delight.

Birds they pluck very carefully, and quarter, before eating them, but swallow small quadrupeds entire, afterwards ejecting their skins rolled up into a ball. They always pursue and seize their prey upon the wing, not falling upon it from aloft, but rapidly skimming the earth, make their insidious approaches sideways, and singling out their victim, dart upon it with fatal velocity. They never soar, like the Kites and Eagles, to the upper regions of the atmosphere, and it is only during the nuptial season that they are observed sailing in wide circles in the air. Their favorite haunts during summer are forests, building their nests on trees; in winter they spread over the plains. Though generally observed alone, the male and his companion are seldom far apart. During the youth of their progeny, the parents keep them company in order to teach them to hunt their prey, and at such times they are observed in families.

This group may be further subdivided into two sections, to one of which the name of *Astur* has more strictly been assigned, while the other has been distinguished by those of *Sparvius*, and *Accipiter*. The former, of which the Goshawk of Europe and North America (Black-capped Hawk of Wilson) is the type, is characterized by its wings being somewhat longer, body more robust, and shorter and much thicker tarsi. This is the only species that inhabits the United States and Europe.

The second section, to which the present new species belongs, possessing all its characters in a pre-eminent degree, equally with the Hawk described by Wilson in its adult state as *Falco pensylvanicus*, and in its youth as *Falco velox*, was established on the Sparrowhawk of Europe, *Falco nisus*; but the American species just mentioned are no less typical. The Hawks of this section are more elegantly shaped, being much more slender; their wings are still shorter than in the other section, reaching little beyond the origin of the tail, and their tarsi slender and elongated, with a smooth and almost continuous covering.

Notwithstanding their smaller size and diminished strength, their superior courage and audacity, and the quickness of their movements, enable them to turn the flight of the largest birds, and even sometimes, when in captivity together, to overcome them. We have kept a Sparrowhawk (*Falco nisus*), which, in the space of twenty-four hours that he was left unobserved, killed three Falcons which were confined with him.

The inextricable confusion reigning throughout the works of authors who have not attended to the characters of the different groups of this genus, renders it next to impossible to decide with any degree of certainty, whether our *Falco cooperii* has or has not been recorded. Though agreeing imperfectly with many, we have not been able, not-

withstanding our most sedulous endeavors, to identify it with any. It is evidently a young bird, and we should not be surprised at its proving, when adult, a known species, perhaps one of the numerous species figured of late, and possibly *Le Grand Epervier de Cayenne*, of Daudin, *Sparvius major*, Vieillot, stated to be one-third larger than the European Sparrowhawk. At all events, however, it is an acquisition to the ornithology of these states; and we have ventured to consider it as a new species, and to impose on it the name of a scientific friend, William Cooper, of New York, to whose sound judgment, and liberality in communicating useful advice, the naturalists of this country will unite with us in bearing testimony; and to whom only the author, on the eve of his departure for Europe, would have been willing to intrust the ultimate revision and superintendence of this work.

The perfect accuracy with which Mr. Lawson may be said to have outdone himself in the delineation of this bird, in all the details of its plumage, bill, and feet, will now at least have established the species in the most incontestable manner.

Our bird agrees very well with the Falcon gentle, *Falco gentilis*, Linné, but as that species is referred to the young of the Goshawk, we have preferred giving it a new name to reviving one that might have created an erroneous supposition of identity. To the young Goshawk, our Hawk is, in fact, extremely similar in color and markings, being chiefly distinguished from it by the characters of their respective sections, having the tarsi much more slender and elongated, and the wings still shorter; the tail is also considerably more rounded.

But it is to the sharp-shinned Hawk (*Falco velox*) of Wilson, the *Falco pensylvanicus*, or *Falco fuscus* in its immature plumage, that our Cooper's Hawk bears the most striking resemblance, and is in every particular most closely allied. Even comparing feather by feather, and spot by spot, they almost perfectly agree; but the much larger size of the present, it being more than twice the bulk, will always prevent their being confounded even by the most superficial observer. Another good mark of discrimination may be found in the comparative length of the primaries; the second in *F. cooperii* being subequal to the sixth, while in *F. velox* it is much shorter. The latter has also the fifth as long as the fourth; that, in our species, being equal to the third. The tail is also much more rounded, the outer feather being nearly an inch shorter than the middle one. In *F. velox* the tail is even, the outer feather being as long, or if anything, longer than the middle. There is no other North American species for which it can be mistaken.

The bird represented in the plate, of which we have seen seven or eight specimens perfectly similar in size and plumage, was a male, killed in the latter part of September, near Bordentown, New Jersey. The stomach contained the remains of a Sparrow. Another that we

procured, was shot on the 12th of December, while in the act of devouring on the ground, a full-grown Ruffed Grouse which he had killed, though a larger and heavier bird than himself. Mr. Cooper, the friend to whom we have dedicated this species, has recently favored us with an accurate description of a specimen of a somewhat larger size, shot in the early part of November, on the eastern part of Long Island.

The male Cooper's Hawk is eighteen inches in length, and nearly thirty in extent. The bill is black, or rather blackish-brown; the cere greenish-yellow; the angles of the mouth yellow. The irides are bright-yellow. The general color above is chocolate-brown, the feathers being whitish-gray at base; on the head, and neck above, they are blackish, margined with rufous, pure white towards the base, and grayish at the bottom, the white color showing itself on the top and sides of the neck, and being much purer on the nucha. The back and rump are the same, but the feathers larger, and lighter colored, less margined with rufous, more widely grayish at base, and bearing each four regular spots of white in the middle of their length, which are not seen unless when the feathers are turned aside. The whole body beneath is white, each feather, including the lower wing coverts and femorals, marked with a long, dusky medial stripe, broader and oblanceolate on the breast and flanks (some of the feathers of which have also a blackish band across the middle), the throat, and under wing coverts; the long feathers of the flanks (or long axillary feathers) are white banded with blackish; the vent and lower tail coverts pure white; the wings are nine inches long, and when folded, hardly reach to the second bar of the tail from the base; the smaller wing coverts and scapulars, are like the back, the quills brown above (lighter on the shaft) and silvery-gray beneath, regularly crossed by blackish bands, less conspicuous above; the space between the bands is white on the inner vanes at base; some of the secondaries and tertials are tipped and edged with rusty, and have more and more of white as they approach the body, so that those nearest may in fact be described as white banded with blackish. The first primary is very short, more so than the secondaries; the second is equal to the sixth, the third to the fifth, these two last mentioned being hardly shorter than the fourth, which, as in all *Astures*, is longest. The tail is full eight inches long, reaching five beyond the wings; its color is ashy-brown, much paler beneath, tipped with whitish, and crossed by four equidistant blackish bands, nearly one inch in breadth; the tail coverts at their very base are whitish; the lateral feathers are lighter, and with some white on the inner webs. The legs and feet are yellow, slender, and elongated, but still do not reach, when extended, to the tip of the tail; the tarsus, feathered in front for a short space, is two and three-quarter inches long; as in other *Astures*, the middle toe is much the longest, and the inner, without the nail, is shorter than the outer,

but taken with its much longer nail, is longer. The talons are black, and extremely sharp, the inner and the hind ones subequal, and much the largest, while the outer is the most delicate.

The female is larger, and measures two inches more in length, but in plumage is perfectly similar to the male. As the male we have described and figured, is evidently a young bird, it is very probable, that the adult, after undergoing the changes usual in this group, obtains a much darker and more uniform plumage above, and is beneath lined transversely with reddish. That in this supposed plumage, the bird has not yet been found, is no reason to doubt its existence, as the species is comparatively rare. Even of the common *Falco fuscus*, though constantly receiving numerous specimens of the young, we have only been able to procure a single one in adult plumage, during a period of four years.

We regret that this is all that is in our power to offer of the history of this species, which, as will be seen from the description, possesses in an eminent degree the characters of the group. From the circumstance of its being found here in autumn and winter, we are led to infer, that it comes to us from the North.

SYLVIA PALMARUM.

PALM WARBLER.

[Plate X. Fig. 2.]

Motacilla palmarum, GMEL. *Syst.* I., p. 951, Sp. 53, winter dress.—*Sylvia palmarum*, LATH. *Ind.* p. 544; Sp. 136. VIEILL. *Ois. Am. Sept.* II., p. 21, Pl. 73 (and the other works of the same author), winter plumage. NOB. *Add. Orn. U. S. in Jour. Ac. Ph.* v., p. 29. ID. *Cat. Birds U. S. in Contr. Macl. Lyc. Ph.* I., p. 16, Sp. 105. ID. *Syn. Birds U. S.* Sp. 105, in *Ann. Lyceum, N. Y.* II., p. 78.—*Motacilla ruficapilla*, GMEL. *Syst.* I., p. 971, Sp. 106, summer dress.—*Sylvia ruficapilla*, LATH. *Ind.* summer dress (not of VIEILL).—*Ficedula martinicana*, BRISS. *Av.* III., p. 490, Sp. 50, Pl. 22, Fig. 4, perfect plumage.—*Le Bimbelé, ou fausse Linotte*, BUFF. *Ois.* v., p. 330, winter dress.—*Figuier à tête rousse*, BUFF. *Ois.* v., p. 306, summer dress.—*Palm Warbler*, LATH. *Syn.* IV., p. 489, Sp. 131, winter dress.—*Bloody-side Warbler*, LATH. *Syn.* IV., p. 489, Sp. 115 (not of PENN.), summer plumage.

THIS is one of those lively, transient visitants, which coming in spring from warmer regions, pass through the Middle States on their way to still colder and more northern countries, to breed. From the scarcity of the species, its passage has hitherto been unobserved; and it is now for the first time introduced as a bird of the United States. Authors who have heretofore made mention of it, represent it as a per-

manent resident of St. Domingo, and other islands of the West Indies, and even describe its nest, and habits, as observed there.

In the United States, it is found during winter in Florida, where it is, at that season, one of the most common birds. In the month of November, they are very abundant in the neighborhood of St. Augustine in East Florida, even in the town, and in other parts of the territory wherever the orange-tree is cultivated, being rare elsewhere. They are found in great numbers in the orange-groves near Charleston, South Carolina, at the same season, and have also been observed at Key West, and the Tortugas, in the middle of February, and at Key Vacas in the middle of March. Their manners are sprightly, and a jerking of the tail, like the Pewee, characterizes them at first sight from a distance. The only note we have heard them utter, is a simple chirp, very much like that of the Black and Yellow Warbler, *Sylvia maculosa* (*Magnolia* of Wilson). They are fond of keeping among the thick foliage of the orange-trees. A few are observed every year in spring, on the borders of the Schuylkill, near Philadelphia, as well as in the central parts of New Jersey, on their passage to the North. They breed in Maine, and other parts of New England, where they are common during summer, and perhaps also in Canada, though probably not extending to the inhospitable climates of Hudson's Bay, whose natural productions are so well known.

The bird represented in the plate, was shot near Bordentown, on the seventeenth of April, in the morning. It was a fine adult male, in the gayer plumage of the breeding season, in which it is now for the first time figured, and a description is subjoined.

Length five inches and a quarter, extent more than eight inches. Bill five-eighths of an inch long, very slender, straight, hardly notched, blackish, paler beneath. Feet dusky-gray, yellowish inside; irides dark brown, nearly black. Crown bright chestnut-bay, bottom of the plumage lead-color all over, much darker beneath; a well defined superciliar line, and the rudiment of another, on the medial base of the upper mandible, rich yellow: the same color also encircles the eye; streak through the eyes and cheeks dusky-olive, somewhat intermixed with dull chestnut; upper parts olive-green, each feather being dusky in the middle; rump and upper tail-coverts yellow-olive; all beneath bright yellow; sides of the neck, breast, and flanks with chestnut streaks; superior wing-coverts blackish, margined and tipped with olive-green, and somewhat tinged with chestnut; inferior wing-coverts yellowish; quills dusky, edged exteriorly with green, the outer one with white on the outer side, two exterior with a large white spot on the inner web at tip.

In the plumage here described, it has been mentioned by several authors, under the name of *Sylvia ruficapilla*, and by Latham is called the Bloody-side Warbler. In that which we are about to describe, it

was first made known by Buffon, who adopted the name of *Bimbelé*, given to it in the West Indies, and in this state it is figured by Vieillot, as the *Sylvia palmarum*. The following description is drawn up from a specimen procured in Florida, in winter.

Length five inches; bill half an inch, slender, almost straight, and very slightly notched, blackish, paler beneath; the feet are blackish; irides very dark brown. The general plumage above, is olive-brown, each feather being dusky along the middle: the feathers of the head are dusky at base, as is the whole plumage, then they are chestnut nearly to the tip (forming a concealed spot of that color on the crown), where they are of the common color, but somewhat darker; the rump and superior tail-coverts are yellow-olive; a well defined yellowish-white line passes over the eye, which is encircled with white; the cheeks are dusky, as well as a streak through the eye; the inferior parts are whitish, slightly tinged with yellowish, and with a few blackish streaks each side of the throat, and on the breast and flanks; the belly is immaculate, and more richly tinged with yellow; the inferior tail-coverts being pure yellow; the wing-coverts are of the color of the feathers of the back, the blackish centre being more extended and deeper; the wings have no bands; the quill-feathers are blackish, edged externally with pale yellow-olive, becoming whitish towards the tip; the five outer ones are subequal; the tail is even, its feathers are somewhat pointed, edged externally with yellow-olive, internally with whitish, the outer one also externally whitish; the two outer ones with a large pure white spot on their inner vane at tip, the third and fourth each side with an inner white terminal margin.

In this plumage, this bird resembles so nearly *Sylvia coronata* in its most humble dress, that it is distinguishable only on a close examination. However, the bill is longer, and more slender, the crown-spot chestnut, instead of yellow, the feathers being destitute of the white which is observable in the other by separating the feathers; the rump is olive-yellow, not pure yellow, and that color extending on the tail-coverts, which it does not in *Sylvia coronata*. The under parts tinged with yellow, and especially the pure yellow tail-coverts, which are pure white in *S. coronata*, will sufficiently distinguish them.

It is a remarkable circumstance, that there is no obvious difference to be observed between the plumage of the sexes, notwithstanding the statements of authors to the contrary. This is the case, however, in *S. coronata*, and in almost all the Warblers that change periodically from a dull to a bright plumage, and in fact, in most birds in which this change takes place.

According to Buffon and Vieillot, this bird is a permanent resident in the West Indies, where, as they state, the name is sometimes applied to it of *Fausse Linotte*. We, however, can perceive scarcely any resem-

blance, except in its dull state of plumage, to a similar state of the Redpoll Finch. The name of *Bimbelé*, by which it is known among the negroes of those countries, is derived from the recollection of an African bird, to which, probably, the resemblance is not more evident. Unfortunately, this propensity of limited minds to refer new objects, however distinct, to those with which they are acquainted, seems to have prevailed throughout the world, and is found exemplified nowhere more absurdly than in the Anglo-American names of plants and animals.

The food of this little Warbler consists chiefly of fruits and small seeds. Its song is limited to five or six notes; but though neither brilliant nor varied, it is highly agreeable, the tones being full, soft, and mellow. While other birds of its kind build in thickets and humble situations, this proud little creature is said always to select the very lofty tree from which it takes its name, the Palmist (a species of Palm), and to place its nest in the top, in the sort of hive formed at the base or insertion of the peduncle which sustains the clusters of fruit.

Such are the facts we have gathered from authors; but as the singular description of the nest coincides exactly with the manner of building of the *Tanagra dominica*, and as moreover the Palm Warbler appears not to be known in its gayer vesture in the West Indies, we cannot easily believe that it breeds elsewhere than where we have stated; that is, in the temperate, and even colder regions of America, and that what has been mistaken for its nest, in reality belongs to the above named, or some other bird.

The first accounts of this species were given, as we have already stated, by Buffon, and from him subsequent writers appear to have copied what they relate of it. The bird which he described must have been a very young specimen, as its colors are very dull, much more so than the one figured and described by Vieillot, who supposes, though erroneously, Buffon's specimen to have been a female. Even Vieillot's, which is certainly our species in its winter dress, is much duller in color than those we received from Florida; and these again are far less brilliant than the bird in our plate, represented as it appears for a few days in the spring in Pennsylvania and New Jersey, and is found throughout summer in Maine; thus exhibiting the several gradations of change which the plumage undergoes.

Naturalists cannot be too circumspect in receiving reports even from the most respectable sources, their own senses affording the only authentic testimony to be relied on. From information derived from Mr. T. Peale, who had no opportunity for making comparisons, we erroneously stated in the first volume of this work, that *Sylvia celata*, Say, was one of the most common birds in Florida during winter, keeping among the orange-trees, &c. All this statement had reference to the present species; and as soon as the specimens brought by Mr. Peale as *Sylvia*

celata, were shown to us, the error was immediately perceived. We therefore hasten to correct this mistake, which would be otherwise of more consequence, inasmuch as no one else could for a long time detect it. This species resembles, it is true, *S. celata* (whose range must remain limited to the Rocky Mountains), and perhaps still more, *S. rubricapilla*, Wilson, but it is not of the same subgenus, *Dacnis*, and it may readily be known by the white spots of the tail-feathers.

When the genus *Sylvia*, containing upwards of two hundred and fifty species, shall have been properly studied, it will be found practicable to divide it into several more sections, subgenera, and even perhaps genera. This bird, along with many other North American species, will constitute a highly natural group, very distinct from the true *Sylvia*, of which *S. atricapilla* may be considered as the type. We presume that it is the group we have in view, to which Mr. Swainson has given the name of *Sylvicola*, in his Synopsis of Mexican Birds. Our species is erroneously placed by Buffon among his *Demi-fins*, corresponding to our *Dacnis*, and Wilson's *Worm-eaters*.

FALCO DISPAR.

WHITE-TAILED HAWK.

[Plate XI. Fig. 1.]

Falco dispar, TEMM. et LAUG. Pl. col. 319, young Female. NOB. App. to Synopsis of N. A. Birds in Ann. Lyc., New York, p. 435.—*Milvus* (now *Elanoides*) *leucurus*, VIEILL. (*Alcon blanco*, d'Azara) Nouv. Dict. d'Hist. Nat. xx., p. 556.—*Falco melanopterus*, NOB. Jour. Ac. Ph. v. p. 23. Id. Cat. Birds U. S. Sp. 16, in Contr. MacL. Lyc. i., p. 11. Id. Synopsis of N. A. Birds, Sp. 16, in Ann. Lyc. N. Y.—*Le Faucon blanc*, Sonnini's d'Azara, III., p. 96, Sp. 36.

THIS beautiful Hawk, which we recently discovered to be an inhabitant of North America, is so strikingly similar to the Black-winged Hawk (*Falco melanopterus**) of the old continent, that we have hitherto

* *Falco melanopterus*, Daud. Orn. 2, p. 152, Sp. 124. Lath. Ind. Suppl. p. vi., Sp. 16.—*Falco sonniniensis*, Lath. Ind. Suppl. p. xii., Sp. 38.—*Elanus caesus*, Savigny, Ois. d'Egyp. p. 98, pl. II., f. 2. Vieill. Nouv. Dict. d'Hist. Nat. viii., p. 240 (now *Elanoides*).—*Elanus melanopterus*, Leach Zool. Misc. iii., p. 4, pl. 122. Vigors Deser. Austral. Birds in Tr. Lin. Soc. xv., p. 185.—*Le Blac*, Le Vaillant, Ois. d'Afr. i., p. 147, pl. 36, Male, 37, young Male.—*Black-winged Falcon*, Lath. Syn. Suppl. ii., p. 28, Sp. 23.—*Sonnini's Falcon*, Lath. Syn. Suppl. ii., p. 52, Sp. 59.

The inspection of original drawings, in a collection that Mr. Gray, of the British Museum, was kind enough to show me lately in London, has enabled me to add to

considered them as identical, contrary to the opinion of Vieillot, whose authority, it is true, could in this case be of little weight, as he had not seen the species, but like many others had merely given it a name; his sole knowledge of it being derived from the work of d'Azara. We have now yielded only to the decision of Temminck (who has lately introduced the young into his *Planches Coloriées*), but not without much reluctance, especially as that distinguished ornithologist has evidently not been at the trouble of comparing the two species. Otherwise, he would certainly not have omitted noticing their affinities and differential characters; since in the history of species so closely allied as these two, the differential characters are of more importance and utility than the most labored descriptions.

This comparison we have carefully instituted between our American specimens, and others from Africa and Java. They agreed perfectly, especially with that from Java, in every, the minutest character, even feather by feather, much better than birds of prey of the same species, and from the same country, do generally. They are even more alike than different specimens from the old continent of the Black-winged itself, since that species is said to vary considerably in the black markings, which extend more or less on the wings in different individuals. Nevertheless, a constant, though trivial, differential character, added to the difference of locality, has induced us to follow Temminck's course, in which we should never have ventured to take the lead. This character consists in the tail being in *Falco dispar* constantly irregular, while in *F. melanopterus* it is even; or to explain it more clearly, the outer tail-feather is rather the longest in the African, and more than half an inch shorter than the next in the American species. This essential character is much more conspicuous in Temminck's plate than in ours, owing to the tail being spread. In the Black-winged also, the lower wing-coverts are destitute of the black patch so conspicuous in the American bird; a female from Java has, however, a slight indication of it, but no trace of it is observable in our African males.

By admitting this to be a distinct species from the Black-winged Hawk, we reject one more of those supposed instances, always rare, and daily diminishing upon more critical observation, of a common habitation of the same bird in the warm parts of both continents, without an extensive range also to the North. A steady and long protracted exertion of its powerful wings, would have been requisite to enable it to pass the vast and trackless sea which lies between the western coast of Africa, the native country of the Black-winged Hawk, and the eastern shores of South America. Yet were the species identical, this adven-

these already numerous synonyms, *Falco axillaris*, Lath. Ind. Suppl. (*Circus axillaris*, Vieill.!) from New Holland.

turous journey must have been performed. For, even admitting several centres of creation, we cannot believe that Nature,* who, notwithstanding her luxuriant abundance, evidently accomplishes all her ends with the greatest economy of means, has ever placed, aboriginally, in different parts of the globe, individuals of the same species; but has always given to each the power of extending its range, according to volition, in any direction where it should find climate, food, or other circumstances most appropriate.

The White-tailed Hawk is one of those anomalous species, which connect the generally received divisions of the great genus *Falco*. It participates in the form and habits of the Kites (*Milvus*), while in its other relations it approaches the true Falcons (*Falco*), and at the same time presents traits peculiar to itself. Savigny has therefore very properly considered its near relative, the Black-winged, as the type of a peculiar group, which he elevates to the rank of a genus, but which we for the present shall adopt as a subgenus only. Subsequent observations have confirmed Le Vaillant's opinion, that the Swallow-tailed Hawk (*Falco furcatus*) is closely related to it; and associated with a few other recently discovered species, they have been considered as a distinct group under Savigny's name of *Elanus*. Vieillot adopted the group as a genus, but, for what reason we know not, has since changed the name to *Elanoides*. The Hawks of this group are readily distinguished from all others, by the superior length of the second primary of their elongated wings, by their bill rounded above, curved from the base, and not toothed, their hirsute cere, thick, short, and wholly reticulated tarsi, half feathered before; toes entirely separated, and powerful nails. The head is flattened above, the gape wide, and the eyes large, deep sunk, and with the orbits greatly projecting above. The colors are also similar in the different species, being white, or pale (bluish-white, &c.), with more or less of black. The comparatively even tail of the two allied species of which we are treating, eminently distinguishes them from the others of the subgenus, which have the tail exceedingly forked. They are remarkable also for another characteristic, that of having the nails rounded beneath, and not canaliculate, a circumstance that occurs besides only in the subgenus *Pandion*.† This character, which we formerly attributed to all the *Elani*, and which we believe we first observed not to exist in the fork-tailed species, has induced Mr. Vigors, the English ornithologist, to separate the latter as a new genus, under the name of *Nauclerus*.

* The word *nature* being taken in so many different acceptations, we think proper to state, that with Ranzani, we mean by it "the aggregate of all created beings, and of the laws imposed on them by the Supreme Creator."

† In *Pandion*, however, it is the middle nail that is rounded, in this species it is the lateral and posterior only.

The female White-tailed Hawk is sixteen and a half inches long, and three feet five and a half inches in extent. The bill is black, and measures from the corners of the mouth one inch and a half, the sides of the mouth, posterior portion of the lower mandible, and cere, bright yellow-orange; bristles on the cere white, as well as those first on the lores, those nearest the eye black; irides brownish-red; eyelids white; cilia long and black; orbits black, wider before the eye; front line over the orbits, sides of the head, neck, and body, and whole inferior surface of the bird, together with the thighs, pure white; head pearl-gray, becoming gradually darker from the pure white front towards the neck and back, which are entirely bluish-ash, as well as the rump, scapulars, secondaries, and greater wing-coverts; smaller and middle wing-coverts, deep glossy-black; spurious wing blackish; lining of the wing and inferior coverts pure white, the latter with a wide black patch; primaries on both surfaces slate-color, the shafts black, and, the first excepted, margined exteriorly and slightly at tip with dusky, and interiorly with whitish; the margin of the inner web is of a remarkably close texture, with a very soft surface; the first primary is a little shorter than the third; the second longest; the two outer ones are slightly serrated on their outer web. When closed, the wings reach within less than an inch of the tip of the tail. The tail is seven inches long, slightly emarginated, and with the outer feather more than half an inch shorter than the adjoining one; the middle feathers are very pale bluish-slate, all the others pure white; shafts above, black towards the tip, and beneath white; that of the exterior tail-feather white, tipped with dusky above towards the base; feet bright yellow-orange; tarsus one inch and a half long, feathered in front half its length, the remainder covered with small reticulated scales; toes separated to the base; nails large, black, very acute, and with the exception of the middle one, perfectly rounded beneath; the middle one is very sharp on the inner side.

The male is of a smaller size; the upper surface, instead of being bluish-slate, is more of a dirty grayish, slightly tinged with ferruginous; the tail is less purely white. These sexual differences are the more worthy of note, as they are the reverse of what is exhibited in other Hawks. It is, however, possible, that they are not to be found in very old males.

The young of both sexes, but especially the young males, are somewhat darker, and are strongly tinged with ferruginous, principally on the head, neck, and wings; the breast being entirely of that color. A specimen of the African species in this state, is figured by Le Vaillant, whose plates in general are tolerably accurate; but how great is the disappointment of the ornithologist to find the tarsi represented as covered distinctly with plates, as in other Hawks! We cannot let pass

this opportunity of exhorting engravers, draftsmen, and all artists employed on works of Natural History, never to depend on what they are accustomed to see, but in all cases to copy faithfully what they have under their eyes; otherwise, taking for granted what they ought not, they will inevitably fall into these gross errors. Even the accurate Wilson himself, or rather perhaps his engraver, has committed the same error in representing the feet of the Swallow-tailed Hawk. Of what consequence, will it perhaps be said, is the form of the scales covering the foot of a Hawk? But these afford precisely one of the best representative characters of groups, and it will, therefore, not be thought unnecessary to caution artists in this, and similar cases.

The young, as described by Temminck, is in a more advanced stage of plumage; the front, fore part of the neck, thighs, flanks, and under tail-coverts are pure white; the breast and belly are of the same color, but are marked with reddish spots, and brown lines; the occiput, nucha, back, and scapulars are brownish, mixed with whitish, and more or less tinged with cinereous; all these feathers having wide margins of whitish and reddish; the upper tail-coverts are black, with reddish margins; the inferior marbled with black and white; the quills are bluish, terminated with white; the tail is of a grayish-white, with black shafts; all the feathers have dark cinereous towards the point, and are tipped with white.

This species is an inhabitant of a great portion of the American continent, as the *Alcon blanco* of Paraguay, so well described by d'Azara, is undoubtedly the same bird. Vieillot undertook to classify it from d'Azara's description, applying to it the name of *Milvus leucurus*; but after more attentive consideration, he perceived that it was not a *Milvus*, but an *Elanus*. He consequently removed it to that genus, which he called *Elanoides*, at the same time asserting, that with the Swallow-tailed Hawk, it ought to constitute a different section from the Black-winged Hawk; from which, upon actual comparison, it is with difficulty shown to be even specifically distinct! Such are the absurdities into which authors are betrayed through the highly reprehensible practice to which some are addicted, of attempting to classify, and name, animals they have never seen, from the descriptions or mere indications of travellers. Though by such means, they may sometimes gain the credit of introducing a new species, and thus deprive future observers who may risk their fortunes, or even their lives, in pursuit of imperfectly known animals, of their best reward, they cannot fail to incur the merited reprobation of all honorable and fair-dealing naturalists.

Though this bird ranges so widely over the American continent, it is everywhere a rare species, and in the United States appears to be confined to the southern extremity. The specimen figured in the plate of the natural size, was shot in December, in the neighborhood of St.

Augustine, East Florida, at the residence of my near relation, Colonel Achilles Murat, whose kind hospitality afforded to Mr. Titian Peale every facility for the prosecution of his scientific researches. It was observed by Mr. Peale, about the dawn of day, sitting on the dead branch of an old live-oak, attentively watching the borders of an adjacent salt-marsh which abounded with *Arvicola hispidus*, and the different species of Sparrow, which make their residence in the southern parts of the Union. It was very shy, and on his approach, it flew in easy circles at a moderate elevation, and such was its vigilance, that the greater part of a day was spent in attempting to get within gunshot. At length the cover of interposing bushes enabled him to effect his purpose. It was a beautiful female, in perfect adult plumage. This sex in the perfect state, is now for the first time represented, Temminck's plate representing the young female only; and even the figures of the African analogue in Le Vaillant's work exhibit only the male in the young and adult states. As usual in the tribe of predaceous birds, the female is much larger than the male, and is therefore entitled to precedence.

Though this species is so rare, its near relative, the Black-winged Hawk, appears on the contrary to be very numerous. In Africa, where it was first discovered, and which is probably its native country, it is rather a common species, and has a very extensive range. Le Vaillant frequently observed it on the eastern coast of that little-known continent, from Duyven-Hoek to Caffraria, where, however, it is less common. The same traveller found it to inhabit also in the interior, in the Cambdebo, and on the shores of the Swart-kop, and Sunday rivers. It is very common in Congo, and numerous also in Barbary, Egypt, and far-distant Syria. The researches of Ruppel in the interior of North-Eastern Africa, already so productive, and from which so much more may be expected, have furnished specimens of this species, of which we owe two to the kindness of Dr. Creitzschmaer, the learned and zealous Director of the Museum of the free city of Frankfort, an institution which has risen up with such wonderful rapidity. We are also informed, that it is an inhabitant of India, which is rendered probable by a specimen from Java in my collection. It is found in New Holland, being numerous in the autumn of New South Wales, where it is migratory, and preys chiefly on field-mice, but is seldom known to attack birds. It is there observed at times to hover in the air, as if stationary and motionless. Though occasionally met with on the African coast of the Mediterranean, not a solitary individual has ever been known to visit the opposite shores of Italy, Spain, or Turkey, nor has it been met with in any other part of Europe.

When at rest, it is generally seen perched on high bushes, where the pure white of the lower parts of its body renders it very conspicuous at

a distance. It utters a sharp piercing cry, which is often repeated, especially when on the wing, though Mr. Peale assures us, that our individual uttered no cry. Like its closely related species, it does not attack small birds, except for the purpose of driving them from its favorite food, which consists of hemipterous insects, chiefly of the *Gryllus* and *Mantis* genera, as well as other insects, and some reptiles. In the stomach of our specimen, however, Mr. Peale found, besides the usual food, fragments of an *Arvicola hispidus*, and one or two feathers apparently of a Sparrow: but it is not a cowardly bird, as might be suspected from its affinity to the Kites, and from its insignificant prey, since it successfully attacks Crows, Shrikes, and even the more timid birds of its own genus, compelling them to quit its favorite haunts, which it guards with a vigilant eye. They build in the bifurcation of trees. The nest is broad and shallow, lined internally with moss and feathers. The female is stated to lay four or five eggs; the nestlings at first are covered with down of a reddish-gray color.

The African species is said to diffuse a musky odor, which is retained even after the skin is prepared for the Museum: but we are inclined to believe, that it is in the latter state only that it possesses this quality. Mr. Peale did not observe any such odor in the bird he shot, but being obliged, for want of better food, to make his dinner of it in the woods, found it not unpalatable.

SYLVIA AZUREA.

FEMALE CÆRULEAN WARBLER.*

[Plate XI. Fig. 2.]

Sylvia azurea, STEPHENS, *cont. SHAW'S Zool.* x., p. 653. *NOB. Obs. Jour. Ac. Nat. Sc. Ph.* iv., p. 193, Male.—*Sylvia bifasciata*, SAY, in *Long's Exp. to the Rocky Mountains*, I., p. 170, Male.

THE merit of having discovered this bird, is entirely due to the Peale family, whose exertions have contributed so largely to extend the limits of Natural History. The male, which he has accurately described, and figured, was made known to Wilson by the late venerable Charles Wilson Peale, who alone, and unaided, accomplished an enterprise, in the formation of the Philadelphia Museum, that could hardly have been exceeded under the fostering hand of the most powerful government.

* See WILSON'S *American Ornithology, Cærulean Warbler, Sylvia cærulea*, Vol. II., p. 189, Pl. 17, fig. 5, for the Male.

To the no less zealous researches of Mr. Titian Peale, the discovery of the female is recently owing, who moreover evinced his sagacity by determining its affinities, and pointing out its true place in the system. Although it preserves the principal characters of the male, yet the difference is sufficiently marked to deserve an especial notice in this work.

The specimen here represented, was procured on the banks of the Schuylkill, near Mantua village, on the first of August, 1825. It was very active, skipping about on the branches of an oak, attentively searching the leaves, and crevices of the bark, and at intervals taking its food on the wing in the manner of the Flycatchers. It warbled in an under tone, not very unlike that of the Blue-gray Flycatcher of Wilson (*Sylvia cœrulea*, L.), a circumstance that would lead to the supposition of its being a male in summer dress, but on dissection it proved to be a female.

The Female Azure Warbler is four and three-quarter inches long, and eight and a quarter in extent.* Bill blackish above, pale bluish beneath; feet light blue; irides very dark brown; head and neck above, and back, rich silky-green, brighter on the head, and passing gradually into dull bluish on the rump; line from the bill over the eye whitish, above which is the indication of a blue-black line widening behind; a dusky streak passes through the eye; cheeks dusky greenish; beneath entirely whitish, strongly tinged with yellow on the chin; sides of the neck, breast, flanks, and vent, streaked with dark bluish; the base of the whole plumage is bluish-white; inferior tail-coverts pure white; wings and tail very similar to those of the male, though much less brilliant; smaller wing-coverts bluish, tipped with green; middling and large wing-coverts blackish, widely tipped with white, constituting two very apparent bands across the wings, the white slightly tinged with yellowish at tip; spurious wing blackish; quill-feathers blackish, edged externally with green, internally and at tip with whitish, the three nearest the body more widely so; the inferior wing-coverts white; tail hardly rounded, feathers dusky slate, slightly tinged with bluish externally, and lined with pure white internally, each with a white spot towards the tip on the inner web. This spot is larger on the outer feathers, and decreases gradually until it becomes inconspicuous on the two middle ones.

The description of the male need not here be repeated, having been already given with sufficient accuracy by Wilson, to whose work the reader is referred. On a comparison of the description and figures, he

* The dimensions given by Wilson of the male must be rather below the standard, as they are inferior to those of the female, whereas all the specimens we examined were larger, as usual.

will find that the chief difference between the sexes consists in the female being green instead of blue, in her wanting the black streaks, and in being tinged with yellow beneath.

We have to regret our inability to add much to Wilson's short and imperfect account of the species. It is by no means more common at this time, than it was when he wrote; which may account for the difficulty of ascertaining the period of its migrations, and for the circumstance of our having never met with the nest, and our want of acquaintance with its habits. We can only add to its history, that it is found in the Trans-Mississippian territory; for the *Sylvia bifasciata* of Say, accurately described in Long's first expedition, is no other than the male. We have examined the specimen shot at Engineer Cantonment.

Although the undisputed merit of first making known this species belongs to Wilson, yet the scientific name that he applied to it cannot be retained, inasmuch as it is preoccupied by the Blue-gray Warbler, a Linnean species, which Wilson placed in *Muscicapa*, but which we consider a *Sylvia*, notwithstanding that it does in some degree aberrate from the typical species of that genus.* Under such circumstances, we cannot hesitate in adopting the name substituted by Mr. Stephens, the continuator of Shaw's compilation.

FALCO CYANEUS.

BLUE HAWK, OR HEN-HARRIER.†

[Plate XII.]

Falco cyaneus, LINN. *Syst.* I., p. 126, Sp. 10. GMEL. *Syst.* I., p. 276, Sp. 10. *Iter Poseg.* p. 27, adolescent Male. LATH. *Ind. Orn.* I., p. 39, Sp. 94. MONTAGUE, in *Trans. Lin. Soc.* IX., p. 182. MEYER, *Tasch. Deutschl. Vog.* I., p. 145. TEMM. *Man. Orn.* I., p. 72. RANZ. *El. Zool.* III., Pl. 7, p. 137, Sp. 28. BREHM, *Lehrb. Eur. Vog.* I., p. 59. SELBY, *Ill. Brit. Orn.* I., p. 26, Pl. 10, fig. 1, Male, fig. 2, Female. SAVI, *Orn. Tosc.* I., p. 63. NOR. *Cat. and Syn. Birds U. S.* Sp. 22.—*Falco pygargus*, LINN. *Syst.* I., p. 126, Sp. 11. GMEL. *Syst.* I., p. 277, Sp. 11, Female and young.—*Falco Hudsonius*, LINN. *Syst.* I., p. 128, Sp. 19. GMEL. *Syst.* I., p. 277, Sp. 19, young American.—*Falco bohemicus*, GMEL. *Syst.* I., p. 276, Sp. 107. LATH. *Ind.* p. 38, Sp. 93, adult Male.—*Falco albicans*, GMEL. *Syst.* I., p. 276, Sp. 102. LATH. *Ind.* p. 38, Sp. 93, adult Male.—*Falco griseus*, GMEL. *Syst.* I., p. 275, Sp. 100. LATH. *Ind.* p. 37, Sp. 86. GERARD, *Tabl. Elem.* p. 37, adolescent Male.—*Falco montanus*, var. B. GMEL. *Syst.* I., p. 278, Sp. 106.

* See my *Observations on the Nomenclature of Wilson's Ornithology*.

† See WILSON's *American Ornithology*, Vol. I., p. 79, Pl. 51, fig. 1, for the young (under the name of Marsh-Hawk, *Falco uliginosus*).

LATH. *Ind.* p. 48, Sp. 116.—*Falco cinereus*, *It. Poseg.* p. 27, adolescent Male.—*Falco ulbicollis*, LATH. *Ind.* p. 36, Sp. 81, adult South American Male.—*Falco buffonii*, GMEL. *Syst.* i., p. 277, Sp. 103, Female and young American.—*Falco uliginosus*, GMEL. *Syst.* i., p. 278. LATH. *Ind.* p. 40, Sp. 95. SABINE, *Zool. App. to Frankl. Exp.* p. 671, young American.—*Falco rubiginosus*, *It. Poseg.* p. 29. LATH. *Ind.* p. 27, Sp. 56, young.—*Falco ranivorus*, DAUDIN, *Orn.* ii., p. 170. LATH. *Ind. Suppl.* p. 7, young.—*Falco europogistus*, DAUD. *Orn.* ii., p. 110, adolescent Male.—*Circus europogistus*, VIEILLOT, *Ois. Am. Sept.* i., p. 36, Pl. 8, adolescent Male.—*Circus Hudsonius*, VIEILL. l. c. i., p. 36, Pl. 9, young.—*Circus uliginosus*, VIEILL. l. c. i., p. 37, Female and young.—*Circus variegatus*, VIEILL. l. c. i., p. 37, Male changing.—*Circus gallinarius*, VIEILL. *Nouv. Dict. d'Hist. Nat.* iv., p. 459. *Circus cyaneus*, ID. xxxi., p. 410.—*Circus cyaneus*, BOIE. *Circus ranivorus*, VIEILL. *Nouv. Dict. d'Hist. Nat.* iv., p. 456, young African.—*Falco strigiceps*, NILLS. *Orn. Suec.* i., p. 21.—*Falco torquatus*, BRISS. *Orn.* i., p. 345, Sp. 7. ID. 8vo. p. 100, Male and Female, BRUNN, Sp. 14.—*Falco Montanus cinereus*, BRISS. *Orn.* i., p. 355, Sp. 9, Var. A. ID. 8vo. p. 112, adolescent Male.—*Accipiter Freti Hudsonis*, BRISS. *Orn.* vi., *App.* p. 18, Sp. 47.—*Lanarius cinereus*, BRISS. *Orn.* i., p. 365, Sp. 17. ID. 8vo. p. 106.—*Lanarius albicans*, BRISS. i., p. 367, Sp. 18.—*Subbuteo*, GESSNER, *Av.* p. 48.—*Pygargus accipiter*, RAY, *Syn.* p. 17, Sp. 5. WILL. *Orn.* p. 40, Pl. 7.—*Falco plumbeus cauda tessellata*, KLEIN, *Av.* p. 52, Sp. 22.—*Lanarius*, ALDR. *Orn.* i., Pl. 381, 382, adult Male.—*Lanarius cinereus, sive Falco cinereo-albus*, FRISCH, Pl. 79, 80, adult Male.—*Falco Montanus secundus*, ALDR. WILL. Pl. 9, adult Male.—*Albanella, Storia degli Ucc.* i., Pl. 35, adult Male.—*Falco Pigargo*, ID. i., Pl. 31, Female.—*Autre Oiseau St. Martin*, BELON, *Hist. Ois.* p. 104.—*L' Oiseau St. Martin*, BUFF. *Ois.* i., p. 212. ID. *Pl. Enl.* 459, adult Male. GERARDIN, *Tabl. Elem. Orn.* i., p. 43.—*La Sou-buse*, BUFF. *Ois.* i., p. 215, Pl. 9. ID. *Pl. Enl.* 443, young Female, 480, young Male. GERARDIN, *Tabl. Elem. Orn.* i., p. 37, Female and young.—*Le Grenouillard*, LE VAILL. *Ois. Afrique* i., p. 63, Pl. 23, young.—*Kore oder Halbweyhe*, BECHST. *Tusch. Deutsch.* p. 25, Sp. 20. MEYER & WOLF, *Ois. d'Allem.* liv. 27, Pl. 5, adult Male, Pl. 6, Female. NAUMANN, *Fog. Deutsch.* ed. 2, i., Pl. 39, fig. 1, adult Male, fig. 2, adult Female, Pl. 38, fig. 2, young Male.—*Mause Habicht, Missilauche*, MEYER, *Boehm. Abh.* 6, p. 313, adult Male.—*Blue-Hawk*, EDW. v., p. 33, Pl. 225, adult Male.—*Marsh-Hawk*, EDW. p. 173, Pl. 291. PENN. *Arct. Zool.* Sp. 105. LATH. *Syn.* i., p. 90, Sp. 75, Var. A. Female and young.—*Ash-colored Mountain Falcon*, LATH. *Syn.* i., p. 94, Sp. 78. Var. A. adolescent Male.—*Hen-Harrier*, EDW. Pl. 225, very old Male. WILL. (*Angl.*) p. 172. ALB. II., Pl. 5. HAYES, *Brit. Birds*, Pl. 1. LEWIN, *Brit. Birds*, i., p. 18. PENN. *Brit. Zool.* i., Sp. 58, p. 28. LATH. *Syn.* i., p. 88, Sp. 74. ID. *Suppl.* p. 22, adult Male.—*Ring-tail Hawk*, EDW. III., pl. 107. PENN. *Arct. Zool.* Sp. 106, Female and young.—*Ring-tail*, WILL. (*Ang.*) p. 72. ALB. III., Pl. 3. HAYES, *Brit. Birds*, Pl. 2. LEWIN, *Brit. Birds*, i., Pl. 18, Female. ID. Pl. 2, fig. 4, the egg. PENN. *Brit. Zool.* Sp. 59. LATH. *Syn.* i., p. 89, Sp. 75. ID. *Suppl.* p. 22, Female and young.—*White-rumped Bay Falcon*, LATH. *Syn.* p. 54, Sp. 34, Var. B. young.—*Hudson's Bay Ring-tail*, LATH. *Syn.* i., p. 91, Sp. 76, young.—*White Lanner*, LATH. *Syn.* i., p. 87, Sp. 73, adult Male.—*Gray Falcon*, PENN. *Brit. Zool.* i., Sp. 49. LEWIN, *Brit. Birds*, i., Pl. 15. LATH. *Syn.* i., p. 82, Sp. 67, adolescent Male.—*New York Falcon*, PENN. *Arct. Zool.* II., p. 209, adolescent Male.—*Ranivorous Falcon*, LATH. *Syn. Suppl.* Female and young. *White-necked Falcon*, LATH. *Syn. Suppl.* p. 30, Sp. 101, adult Male, South American.—*Cayenne Ring-tail*, LATH. *Syn.* i., p. 91, Sp. 76, Var. A. young.—*Falco glaucus, the sharp-winged Hawk, of a pale sky-blue color, the tip of the wings black*, BARTR. *Trav.* p. 290, adult Male.—*Falco subcaeruleus, the sharp-winged Hawk, of a dark or dusky*

blue color, BARTR. Trav. p. 290, adolescent Male.—*Falco ranivorus*, the Marsh-Hawk, BARTR. Trav. p. 290, young.

As will be perceived upon a slight inspection of our long and elaborate list of synonymes, this well-known species is found in almost every part of the globe; and not only does it seem to have been considered everywhere distinct, but nearly every different appearance which it assumes during its progress through the various and extraordinary changes that its plumage undergoes according to sex and age, has in each country given rise to a nominal species. At the same time, however, that names were thus inconsiderately multiplied for one bird, two, really distinct, were always confounded together. Analogous in their changes, similar in form and plumage, it was reserved for the acute and ingenious Montague, to point out the difference, and establish the two species by permanent characters. The new one was called by him *Falco cineraceus*, and is known by the English name of Ash-colored Harrier. It is figured and accurately described in all its states of plumage by Vieillot, in his *Galerie des Oiseaux*, where he has dedicated it to its discoverer, calling it *Circus Montagui*; thus fully apologizing for having in his article *Busard*, of the New Dictionary of Natural History, declared it to be a state of the other. How far, however, it may be considered a compliment to change the name given to a species by its discoverer, in order to apply even his own to it, we are at a loss to imagine.

The principal distinctive characters of the two species are to be found in the relative length of the wings and tail, and in the proportional lengths of the primaries. In the Ash-colored Harrier, the sixth primary is shorter than the first, the second is much longer than the fifth, and the third is the longest; the wings when closed reach to the tip of the tail. In the Hen-Harrier, the first primary is shorter than the sixth, the second sub-equal to the fifth, and the third equal to the fourth, the longest; the wings closed, not reaching by more than two inches to the tip of the tail, which is also but slightly rounded in the latter, while in the Ash-colored it is cuneiform. Other minor differences are besides observable in the respective sexes and states of both; but as those we have indicated are the only ones that permanently exist, and may be found at all times, we shall not dwell on the others, especially as Montague's species appears not to inhabit America. We think proper to observe, however, that the adult male of *Falco cineraceus* has the primaries wholly black beneath, while that of the *F. cyaneus* has them black only from the middle to the point; and that the tail feathers, pure white in the latter, are in the former spotted beneath. The female in our species is larger than the corresponding sex of the other, though the males in both are nearly of equal size; and the collar that surrounds the face is strongly marked in ours, whereas it is but little apparent in

the other. The *F. cineraceus* has two white spots near the eyes, which are not in the *F. cyaneus*. The young of the former is beneath rusty without spots. Thus slight, but constant differences, are seen to represent a species, while the most striking discrepancies in color, size, and (not in this, but in other instances) even of form, prove mere variations of sex or age! We cannot wonder at the two real species having always been confounded amidst the chaotic indications of the present.

Even Wilson was not free from the error which had prevailed for so long a period in scientific Europe, that the Ring-tail and Hen-Harrier were two species. Though he did not publish a figure of the present in the adult plumage of the male, he was well acquainted with it as an inhabitant of the Southern States; for there can be no doubt that it is the much-desired *Blue Hawk* which he was so anxious to procure; the only land bird he intended to add to his Ornithology, or at least the only one he left registered in his posthumous list. It was chiefly because he was not aware of this fact, and thought that no Blue Hawk existed in America corresponding to the European Hen-Harrier, that Mr. Sabine, in the Appendix to Franklin's Expedition above quoted, persisted in declaring that the Marsh-Hawk was a distinct species peculiar to America, of which he supposed the Hudson's Bay Ring-tail to be the young. The differences which he detected on comparing it with the European Ring-tail, must have been owing to the different state of plumage of his specimen of this ultra-changeable species. If, however, he had not mentioned the colors merely, as bringing it nearer to the Ash-colored Falcon of Montague, we might be inclined to believe that the specimen he examined was indeed a young bird of that species, which, though as yet unobserved, may after all possibly be found in North America. At all events, Wilson's and the numerous American specimens that have passed under our examination, were all young Hen-Harriers.

After having stated that the error of considering the Hen-Harrier and Ring-tail as different species had prevailed for years in Europe, it is but just to mention, that Aldrovandi, Brisson, Ray, and others of the older authors, were perfectly in accordance with nature on this point. It was perhaps with Linné, or at least with Buffon, Gmelin, Pennant, and Latham himself, who afterwards corrected it, that the error originated. Latham, confident of his own observations and those of Pennant, who had found *males* of the species said to be the female of the *Falco cyaneus* (Hen-Harrier), and not reflecting that these males might be the young, exclaims, "authors have never blundered more than in making this bird (the Ring-tail) the same species with the last mentioned (Hen-Harrier);" an opinion that he was afterwards obliged to recant. In physical science we cannot be too cautious in rejecting facts, nor too careful in distinguishing in an author's statement, what

has passed under his own eyes, however extraordinary it may seem, from the inference he draws from it. Thus, to apply the principle in this instance, Latham might have reconciled the fact of males and females being found in the plumage of the Ring-tail, with the others, that no females were ever found under the dress of the Hen-Harrier, and that some Ring-tails would gradually change into Hen-Harriers.

Whether or not the Marsh-Hawk of America was the same with the Ring-tail of Europe, Wilson would not take upon himself to pronounce, as he has left to his bird the distinctive name of *Falco uliginosus*; though he positively states, that in his opinion they are but one species, and even rejects as false, and not existing, the only character on which the specific distinction was based, that of the American having "strong, thick, and short legs," instead of having them long and slender. For want of opportunity however of actually comparing specimens from both continents, he could choose no other course than the one he has followed; and so great appears to have been the deference of ornithologists for this extraordinary man, that while they have unhesitatingly quoted as synonymous with the European Hen-Harrier, the African specimens described by Le Vaillant, and even the various nominal species created or adopted by Vieillot as North American, the *Falco uliginosus* of former authors has been respected, probably as the Marsh-Hawk of Wilson! But the latter is not more than the others entitled to be admitted as distinct, being merely the present in its youthful dress.

The Hen-Harrier belongs to the subgenus *Circus*, which in English we shall call Harrier, the name of Buzzard being appropriated to the *Buteones*. Though perfectly well marked in the typical species, such as this, the group to which our bird belongs passes insensibly into others, but especially into that called *Buteo*, some even of the North American species being intermediate between them. Whenever the groups of Falcons shall be elevated to the rank of genera, it will perhaps be found expedient to unite *Circus* and *Buteo*, as they do not differ much more from each other than our two sections of Hawks; those with long and slender legs, and those with short stout legs, *Astur* and *Sparvius* of authors, the line of demarcation being quite as difficult to be drawn.

The Harriers are distinguished in their tribe by their weak, much compressed bill, destitute of a tooth or sharp process, but with a strongly marked lobe; their short and bristly cere; their long, slender, and scutellated tarsi; their slender toes, of which the outer are connected at base by a membrane; their nails, subequal, weak, channelled beneath, much incurved, and extremely sharp: a very remarkable characteristic is exhibited in their long wings, subequal to the tail, which is large, and even, or slightly rounded at tip: their first quill is very short, always shorter than the fifth, and the third or fourth is the longest. Their

slender body and elegant shape chiefly distinguish them from their allies, the Buzzards. They may be further subdivided into those in which the female at least, is possessed of that curious facial ring of scaly or stiff feathers so remarkable in the Owls, and those entirely destitute of it. One species only is found in the United States, which belongs to the first section, and cannot be confounded with any other than that from which we have thought proper to distinguish it at the beginning of this article. In this section, the female differs essentially from the male, the young being similar to her in color. The latter change wonderfully as they advance in age, to which circumstance is owing the wanton multiplication that has been made of the species. In those which compose the second section, the changes are most extraordinary, since, while the adult male is of a very uniform light color, approaching to white, the female and young are very dark, and much spotted and banded: they are also much more conspicuously distinguished by the rigid facial ring.

These birds are bold, and somewhat distinguished for their agility, especially when compared with the Buzzards, and in gracefulness of flight they are hardly inferior to the true Falcons. They do not chase well on the wing, and fly usually at no great height, making frequent circuitous sweeps, rarely flapping their wings, and strike their prey upon the ground. Their food consists of mice, and the young of other quadrupeds, reptiles, fishes, young birds, especially of those that build on the ground, or even adult water birds, seizing them by surprise, and do not disdain insects; for which habits they are ranked among the ignoble birds of prey. Unlike most other large birds of their family, they quarter their victims previously to swallowing them, an operation which they always perform on the ground. Morasses and level districts are their favorite haunts, being generally observed sailing low along the surface, or in the neighborhood of waters, migrating when they are frozen. They build in marshy places, among high grass, bushes, or in the low forks or branches of trees; the female laying four or five round eggs, entirely white, or whitish, without spots. During the nuptial season, the males are observed to soar to a considerable height, and remain suspended in the air for a length of time.

The male Hen-Harrier is eighteen inches long, and forty-one in extent; the bill is blackish horn color, the cere greenish yellow, almost hidden by the bristles projecting from the base of the bill; the irides are yellow. The head, neck, upper part of the breast, back, scapulars, upper wing-coverts, and middle tail feathers pale bluish gray, somewhat darker on the scapulars; the upper coverts being pure white, constitute what is called a white rump, though that part is of the color of the back, but a shade lighter; breast, belly, flanks, thighs, under wing-coverts, and under tail-coverts pure white, without any spot or streak. The

wings measure nearly fourteen inches, and when closed, reach only two-thirds the length of the tail, which is eight and a half inches long, extending by more than two inches beyond them; the primaries, of which the first is shorter than the sixth, the second and fifth subequal, and the third and fourth longest, are blackish, paler on the edges, and white at their origin, which is more conspicuous on their inferior surface; the secondaries have more of the white, being chiefly bluish gray on the outer web only, and at the point, which is considerably darker. The tail is but very slightly rounded. All the tail-feathers have white shafts, and are pure white beneath; the middle ones are bluish gray, the lateral almost purely white; somewhat grayish on the outer vane, and obsoletely barred with blackish gray on the inner. The feet are bright yellow, and the claws black; the tarsus is three inches long, and feathered in front for an inch.

The female is larger, being between twenty and twenty-one inches long, and between forty-four and forty-seven in extent; the tarsi, wings, and tail, proportionally longer, but strictly corresponding with those of the male. The general color above is chocolate-brown, more or less varied with yellowish rufous; the space round the orbits is whitish, and the auriculars are brown; the small stiff feathers forming the well marked collar, or ruff, are whitish rusty, blackish brown along the shaft; the feathers of the head and neck are of a darker brown, conspicuously margined with yellowish rusty; on the nucha, for a large space, the plumage is white at the base, as well as on the sides of the feathers, so that a little of that color appears even without separating them; those of the back and rump are hardly, if at all, skirted with yellowish rusty, but the scapulars and wing-coverts have each four regular large round spots of that color, of which those farthest from the base lie generally uncovered; the upper tail-coverts are pure white, often, but not always, with a few rusty spots, constituting the so-called white rump, which is a constant mark of the species in all its states of plumage. The throat, breast, belly, vent, and femorals, pale yellowish rusty, streaked lengthwise with large acuminate brown spots darker and larger on the breast, and especially the under wing-coverts, obsolete on the lower parts of the body, which are not spotted. The quills are dark brown, whitish on the inner vane, and transversely banded with blackish; the bands are much more conspicuous on the inferior surface, where the ground-color is grayish white. The tail is of a bright yellowish rusty, the two middle tail-feathers dark cinereous; all are pure white at the origin, and regularly crossed with four or five broad blackish bands; their tips are more whitish, and the inferior surface of a grayish white, like that of the quills, but very slightly tinged with rusty, the blackish bands appearing to great advantage, except on the outer feathers, where they are obsolete, being less defined even above.

The young male is almost perfectly similar in appearance to the adult female (which is not the case in the Ash-colored Harrier), being however more varied with rusty, and easily distinguished by its smaller size. It is in this state that Wilson has taken the species, his very accurate description being that of a young female. The male retains this plumage until he is two years old, after which he gradually assumes the gray plumage peculiar to the adult: of course they exhibit almost as many gradations as specimens, according to their more or less advanced age. The ash and white appear varied or mingled with rusty; the wings, and especially the tail, exhibiting more or less indications of the bands of the young plumage. The male, when he may be called already adult, varies by still exhibiting the remains of bands on the tail, more or less marked or obliterated by the yellowish edges of the feathers of the back and wings, and especially by retaining on the hind head a space tinged with rusty, with blackish spots. This space is more or less indicated, in the greater part, both of the American and European specimens I have examined. Finally, they are known by retaining traces of the yellowish of the inferior surface in larger or smaller spots, chiefly on the belly, flanks, and under tail-coverts.

For the greater embellishment of the plate, we have chosen to represent one of these very nearly, but not quite adult males, in preference to a perfectly mature bird, which may be easily figured to the mind by destroying every trace of spot or bar. It is moreover, in this dress that the adult is met with in the Middle and Northern States, where it is very rare, and we have never seen a specimen quite mature, though the young are tolerably common; as if the parents sent their children on a tour to finish their education, then to return and marry, and remain contentedly at home. The specimen here figured, was shot on Long Island, and was preserved in Scudder's Museum, New York.

Its total length is eighteen inches, breadth forty-one; the bill bluish black; cere, irides, and feet yellow; claws black. The plumage above is bluish ashy, much darker on the scapulars, and with the feather-shafts blackish: beneath white, slightly cream-colored on the breast; the belly, flanks, and lower tail-coverts, with small arrow-shaped spots of yellowish rusty; the long axillary feathers are crossed with several such spots, taking the appearance of bands: the upper tail-coverts are pure white; the primaries dusky blackish at the point, edged with paler, and somewhat hoary on the outer vane; at base, white internally and beneath. The tail is altogether of a paler ash than the body, tipped with whitish, and with a broad blackish subterminal band; all the tail-feathers are pure white at their origin under the coverts, the lateral being sub-banded with blackish and white on their inner vanes, and the outer on the greater part of the outer web also; the shafts are varied with black and white.

The Hen-Harrier's favorite haunts are rich and extensive plains, and low grounds. Though preferring open and champaign countries, and seeming to have an antipathy to forests, which it always shuns, it does not, like the Ash-colored Harrier, confine itself to marshes, but is also seen in dry countries, if level. We are informed by Wilson, that it is much esteemed by the southern planters, for the services it renders in preventing the depredations of the Rice-birds upon their crops. Cautious and vigilant, it is not only by the facial disk that this bird approaches the Owls, but also by a habit of chasing in the morning and evening, at twilight, and occasionally at night when the moon shines. Falconers reckon it among the ignoble Hawks. Cruel, though cowardly, it searches everywhere for victims, but selects them only among weak and helpless objects. It preys on moles, mice, young birds, and is very destructive to game; and does not spare fishes, snakes, insects, or even worms. Its flight is always low, but notwithstanding, rapid, smooth, and buoyant. It is commonly observed sailing over marshes, or perched on trees near them, whence it pounces suddenly upon its prey. When it has thus struck at an object, if it re-appears quickly from the grass or reeds, it is a proof that it has missed its aim, for, if otherwise, its prey is devoured on the spot.

It breeds in open wastes, frequently in thick furze coverts, among reeds, marshy bushes, the low branches of trees, but generally on the ground. The nest is built of sticks, reeds, straw, leaves, and similar materials heaped together, and is lined with feathers, hair, or other soft substances; it contains from three to six, but generally four or five, pale bluish-white eggs, large and round at each end: the young are born covered with white down, to which succeed small feathers of a rust color, varied with brown and black. If any one approaches the nest during the period of rearing the young, the parents evince the greatest alarm, hovering around, and expressing their anxiety by repeating the syllables, *geg, geg, gag*; or *ge, ge, ne, ge, ge*. Crows manifest a particular hostility to this species, and destroy numbers of their nests.

The Hen-Harrier is widely spread over both continents, perhaps more than any other land bird, though it is nowhere remarkably numerous. In the northern countries of America, it is a migratory species, extending its wanderings from Florida to Hudson's Bay. It is not known to breed in the Northern, or even in the Middle States, where the adults are but rarely seen. In the southern parts of the Union, and especially in Florida, they are rather common in all their varieties of plumage. The species is also found in the West Indies, Cayenne, and probably has an extensive range in South America. It is found throughout Britain, Germany, Italy, the north of Africa, and the northern portion of Asia. It is very common in France and the Netherlands, is found in Russia and Sweden, but does not inhabit the north of Norway,

being by no means an arctic bird. It is again met with in the southern parts of Africa, near the Cape of Good Hope, and is not uncommon all along the eastern coast of that continent. In Switzerland, and other mountainous countries, it is of very rare occurrence.

GARRULUS STELLERI.

STELLER'S JAY.

[Plate XIII. Fig. I.]

Corvus stelleri, Gmel. *Syst.* I., p. 370, Sp. 27. LATH. *Ind.* p. 158, Sp. 20. NOB. *Suppl. Syn. Birds U. S.* Sp. 63, *bis*, in *Zool. Journ. Lond.* v., p. 2. *Id.* in *App. Gen. N. A. Birds* in *Ann. Lyc. N. Y.* p. 438.—*Garrulus coronatus?* SWAINSON, *Syn. Birds Mex.* Sp. 67, in *Phil. Mag. N. S.* I., p. 437, old bird?—*Garrulus stelleri*, VIEILL. *Nouv. Dict. d'Hist. Nat.* XII., p. 481.—*Geai de Steller*, DAUD. *Orn.* II., p. 248.—*Steller's Crow*, PENN. *Arct. Zool.* Sp. 139. LATH. *Syn.* I., p. 387, Sp. 21. *Id.* 2d *Suppl.* VIII., p. 111, Sp. 8. *Id.* *Gen. Hist.* III., p. 56, Sp. 58.

To the enlightened liberality and zeal for science of that distinguished collector, Mr. Leadbeater of London, we, and the American public, are now indebted for the appearance of the first figure ever given of this handsome Jay. Trusting his precious specimens twice to the mercy of the waves, he confided to us this, together with several other still more rare and valuable North American birds, which no consideration would have induced him to part with entirely, to have them drawn, engraved, and published on this side of the Atlantic. It is the frequent exercise of similar disinterestedness in the promotion of scientific objects, that has procured for Mr. Leadbeater the distinction with which he is daily honored by learned bodies and individuals.

The Steller's Jay is one of those obsolete species alluded to in the preface to this volume. It is mentioned by Pallas as having been shot by Steller, when Behring's crew landed upon the coast of America. It was first described by Latham from a specimen in Sir Joseph Banks' collection from Nootka Sound, and on his authority has been admitted into all subsequent compilations. The species is indeed too well characterized to be doubted, and appears moreover to have been known to Lemminck, as it is cited by him as a true Jay in his "Analysis of a General System." Nevertheless, adhering strictly to our plan of not admitting into the Ornithology of the United States any but such as we had personally examined, we did not include this species either in our Catalogue, or Synopsis, of the birds of this county; and it is but recently that Mr. Leadbeater's specimen has enabled us to add it to our list.

In elevating our subgenus *Garrulus* to the rank of a genus, we merely conform to the dictates of nature; in this instance coinciding with Temminck, whose intention it is, as he informs us, to include in it the Jays and Magpies, leaving the name of *Corvus* for those species which are distinguished by their black plumage, and short and even tails. These birds are on every account well worthy of this distinction, and we cheerfully adopt an arrangement which we deem consonant with nature: but we cannot agree to the change of termination (*Garrula*) which he has attempted to introduce, under the pretence that his genus is more extensive than the genus *Garrulus* of former authors. That genus was in fact formed by Brisson, and afterwards by Linné, united with *Corvus*. This latter genus of Linné certainly contained within itself the constituents of several very natural genera; but the additions made to it by Gmelin and Latham, rendered it an utter chaos, where every new species with a stout bill took its place, in defiance of the genuine characters. Under such circumstances the task of the Ornithologist who professed to be guided by philosophical principles was, doubtless, not merely to subdivide, but to make an entire reformation. Illiger, with his usual judgment, perceived the evil and attempted its remedy; but his genus was still too extensive, and besides was not natural, as it included the Wax-wings, a very distinct genus, that had always been forced into others. The only advantage it possessed over that of Latham, was, that all the species it comprised, exhibited its artificial characters. As restricted by Brisson, Vieillot, and lately adopted by Temminck, by whom it was previously much limited, it is perfectly natural; though we cannot help remarking that some even of the eighteen species enumerated by the latter in his article on the generalities of the Crows in the *Planches Coloriées*, may again be separated, such as *Corvus columbianus* (Wilson), which ought perhaps to constitute a genus by itself. Vieillot, and other recent writers on ornithology, have long since adopted the genus *Garrulus* as distinct even from *Pica*, though we prefer retaining the latter merely as a subgenus of *Garrulus*, since it is absolutely impossible to draw the line of separation between them without resorting to minute and complicated distinctions.

The Jays and Magpies in fact require to be distinguished from the Crows, as a genus, on account of their form, color, habits, and even their osseous structure. Their upper mandible, somewhat inflected at tip, and the navicular shape of the lower, afford obvious characteristic marks. Their wings too are rather short, and do not reach by a considerable space to the tip of the tail, which is long, and more or less rounded, sometimes greatly wedge-shaped. On the contrary, the Crows have long wings, reaching almost or quite to the extremity of the tail, which is short, and even at tip. The identity in the shape of the wings

and tail, and even the colors of their plumage, which agree in all the species, and in different climates, render the Crows a very natural and well marked group. The black plumage and offensive odor, which cause them to be viewed everywhere with disgust, and even somewhat of superstitious dread, are far from being characteristics of the neat and elegant Jays.

The true *Corvi* are distinguished by the following traits. Bill very stout; feet very strong; general form robust; flight highly sustained, straight, or circular, as if performing evolutions in the air. They live, travel, and breed, in large bands; affect wide plains and cultivated grounds, only retiring to the adjacent forests to roost, and are always seen on high and naked trees, but never on thickets, shrubs, or bushes. Their voice is deep and hoarse. They are more or less fond of cattle, some species preying on the vermin that infest them. Though devouring all kinds of food, yet their propensity is decidedly carnivorous. Their black unvaried colors, are remarkably opposed to the bright and cheerful vesture of the Jays, whose plumage is of a much looser texture, the feathers being longer and much more downy.

The Jays are again more particularly distinguished from the Magpies by their head-feathers being long and silky, and always erectile (especially when the bird is excited or angry), even when they are not decidedly crested, as is the case in many species. Their colors are also gayer and more brilliant, with more or less of blue. The species of both these sections are garrulous, noisy and inquisitive. Together with the Crows, they are eminently distinguished by their stout, cultrate bill, generally covered at base with setaceous, incumbent, porrect feathers, hiding the nostrils. The female is similar to the male in appearance, and the young differ but little, and only during the first year, from the adult. They are very shy, suspicious, possessed of an acute sense of smelling, and evince great sagacity in avoiding snares. They are omnivorous in the fullest extent of the word, feeding on grains, insects, berries, and even flesh and eggs. When they have caught a small bird, which they can only do when feeble and sickly, or ensnared, they place it under their feet, and with their bill tear it to pieces, swallowing each piece separately. Nevertheless they give the preference to grains or fruits. The northern species are wary and provident, collecting stores of food for the winter. They are very petulant; their motions quick and abrupt, and their sensations lively. When alarmed by the appearance of a dog, fox, or other living or dead object, they rally together by a peculiar note, as if they would impose upon it by their numbers and disagreeable noise. When on the ground, they display great activity; or if on trees, they are continually leaping about from branch to branch, and hardly ever alight on dead or naked ones. They are generally met with in forests, seldom in open plains;

their favorite resort is among the closest and thickest woods. Less suspicious and cunning than the Crows, or even the Magpies, they may be decoyed into snares and taken in great numbers, especially by imitating the voice of one of their own species in difficulties, or by forcing a captive individual to cry. They live in families, or by pairs, the greater portion of the year; and though considerable numbers may be seen travelling at once, they always keep at intervals from each other, and never in close flocks like the Crows. They are easily tamed, and are susceptible of attachment; learn readily to articulate words, and imitate the cries of different animals. They have a troublesome propensity to purloin and conceal small objects not useful to themselves, and as jewels and precious metals are peculiarly apt to attract their notice, they have been the cause, when kept as pets, of serious mischief. Every one is familiar with the story of the Thieving Magpie, become so celebrated by the music of Rossini, and which is founded on fact.

The Jays breed in woods, forests, orchards, preferring old and very shaded trees, placing their nest in the centre against the body, or at the bifurcation of large limbs. The nest is built without art, and is formed of twigs and roots, whose capillary fibres serve as a lining inside: the eggs are from four to six. The old ones keep the food for their young in the oesophagus, whence they can bring it up when wanted. The young are born naked, and remain for a long period in the nest, being still fed for some time by the parents after they are full fledged.

Unlike the melancholy Crows, which step gravely, lifting one foot after the other, the Jays and Magpies move about nimbly by hopping, and are constantly in motion while on the ground. Their flight is moreover neither protracted nor elevated, but merely from tree to tree, and from branch to branch, shooting straight forward at once when wishing to go any distance, now and then flapping their wings, and hovering as they descend, when about to alight. It is quite the reverse with the Crows; and all these characters are of the greatest importance in the establishment of natural groups.

While the true *Corvi*, by their stout and almost hooked bill, and the carnivorous habits of some species, exhibit on the one hand the gradual passage from the Vultures, and on the other, by the slender-billed species, the transition to the Crow-blackbirds and Troopials; the affinities of the Jays present nice gradations to the genera already dismembered from *Corvus*, such as *Nucifraga*, *Pyrrhocorax*, *Bombycilla*, and at the same time form other links with *Lanius*, and even with *Turdus* and *Aceridotheres*.

There is one remarkable analogy of the Jays which we cannot pass over in silence. It is, however singular, and hitherto unsuspected, with the Titmouse (*Parus*). Form, habits, even the peculiar looseness of texture of the plumage, all are similar in these genera, hitherto esti-

mated so widely different. This resemblance extends even to color in some species; it might even be asked, what else in fact is the Canada Jay than a large Titmouse, and what the Crested Titmouse, but a small Jay? The blue color of the typical Jays predominates moreover in other *Pari*, and the *P. caudatus* of Europe has also the long, cuneiform tail of some, no less than *P. bicolor* their crest.

The genus *Garrulus* has an extensive geographical range, being found in all latitudes and longitudes. It is composed of about thirty species, nearly half of which may more properly be called Jays: of the latter there are but two in Europe, and though we have doubled the number given by Wilson, we think that others will yet be discovered in the wild western tracts of this continent. There exist imperfect accounts of two or three species inhabiting the countries near the Rocky Mountains, one of which is probably that here described, and others may prove to be some of the newly discovered Mexican species, one of which, the *Garrula gubernatrix* of Temminck, is so proudly beautiful.

The Steller's Jay is more than twelve inches long. The bill measures one inch and a half, is entire, and totally black; the bristly feathers over the nostrils are also wholly black. The feathers of the head are greatly elongated, forming a large crest, more than two and a half inches long, and, with the whole head and neck, entirely deep brownish black, grayish on the throat; the feathers each side of the front are slightly tipped with bright and light azure, thus forming a dozen or more of small dots on that part; on the neck the brown becomes lighter, and extends down on the back, occupying the scapulars as well as the inner wing-coverts; on the middle of the back the brown becomes somewhat tinged with bluish, and blends gradually into a fine bright blue color, covering the rump and the upper tail-coverts: all the inferior parts from the neck, at the lower part of which the dusky color passes into blue, are blue somewhat tinged with gray, which is the general color of the base of the plumage. The wings are nearly six inches in length; the fourth, fifth, and sixth primaries being subequal and longest. All the outer wing-coverts and the secondaries are blue, faintly crossed with obsolete blackish lines; the under wing-coverts are dusky; the primaries are dark dusky, and, with the exception of the outer ones, at tip are edged or tinged with blue; on the inner vane the secondaries are blackish, but on the outer they are deep glossy blue. The tail is five inches and a half long, and but slightly rounded; it is of a deep glossy azure blue, more brilliant on the outer vanes of the feathers, the inner being slightly tinged with dusky; an indication of obliterated, transverse, blackish lines, may be perceived in certain lights on almost all the tail-feathers in our specimen, and we have no doubt that on others they are more marked; the shafts both of the quills and tail-feathers are black. The tarsus is an inch and three-quarters long; the femorals

blackish, slightly mixed with bluish at the joint; the feet and nails are entirely black.

This description is taken from the individual represented in the plate, which was killed near the Oregon, or Columbia river. Another specimen, from Mexico, also in Mr. Leadbeater's collection, exhibited greater brilliancy of plumage, being principally distinguished, as nearly as our recollection serves, by the black color of the anterior parts being less extended, and by having more of silvery bluish (indicated in our bird) on the front, extending to the throat and eyebrows, and somewhat round the head. This, without any hesitation, we considered as a more perfect specimen, a mere variety of age, and would have had our figure made from it: but having been informed that an English ornithologist (his name and that of the species were not mentioned, or if they were, we have forgotten them) considered it as a new Mexican species, we have preferred, notwithstanding our conviction, strictly copying the less brilliant specimen procured in the United States territory, to the more beautiful one from Mexico. The appearance of *Garrulus coronatus* of Mr. Swainson, in the synopsis before quoted, reminded us of the circumstance, and we have therefore quoted it with doubt. Our two birds agree perfectly in markings and dimensions. Of the habits of the Steller's Jay, little or nothing is known. It inhabits the western territory of the United States, beyond the Rocky Mountains, extending along the western coasts of North America, at least from California to Nootka Sound; is common on the Oregon, and found also in Mexico, on the table land, and in Central America.

It is a curious fact in ornithological geography, that of the four Jays now admitted into the Fauna of the United States, while the common Blue Jay, the only eastern representative of the genus, spreads widely throughout the continent, the three others should be confined in their range, each to a particular section of country. Thus the Canada Jay is the northern, the Florida Jay is the southern, and the present the western representative of the genus. It is probable that another species at least, our *Garrulus ultramarinus*, from Mexico, will soon be admitted as the central Jay. To the latter bird, Mr. Swainson, who had probably not seen my paper describing it (published more than two years ago in the Journal of the Academy of Natural Sciences) gives the name of *G. sordidus*; at least judging from his short phrase, and the dimensions and locality, they are the same.

EMBERIZA LAPPONICA.
LAPLAND LONGSPUR.

[Plate XIII. Fig. 2, Male; 3, Female.]

Fringilla lapponica, LINN. *Syst.* i., p. 317, Sp. 1. *Faun. Suec.* Sp. 235. GMEL. *Syst.* i., p. 900, Sp. 1. RETZ. *Faun. Suec.* p. 242, Sp. 119. FORST. *Ph. Tr.* LXII., p. 404. FAER. *Faun. Grœnl.* p. 119, Sp. 8. LATH. *Ind.* p. 440, Sp. 18. UBERS. i., p. 289, Sp. 18.—*Fringilla montana*, BRISS. *Orn.* III., p. 160, Sp. 38. KLEIN, *Av.* p. 92, Sp. 10.—*Fringilla calcarata*, PALLAS, *It.* p. 710, Sp. 20, t. E. *Id.* in 4to. *French transl.* III., Pl. 1. MEYER & WOLF, *Tasch. Deutschl.* i., p. 176, Sp. 13.—*Emberiza lapponica*, NILSSON, *Orn. Suec.* i., p. 157, Sp. 76. RANZ. *El. Zool.* VI., p. 24.—*Emberiza calcarata*, TEMM. *Man. Orn.* i., p. 322. BREHM. *Lehrb. Eur. Vog.* i., p. 221. RICHARDSON, *App. to Parry's 2d Voy.* p. 345.—*Passerina lapponica*, VIEILL. *Nouv. Dict. Hist. Nat.* XXV., p. 12.—*Plectrophanes calcaratus*, MEYER, *Tasch.* III., p. 176, Sp. 13.—*Plectrophanes lapponica*, SELBY in *Trans. Linn. Soc.* XV., p. 156, Pl. 1, young.—*Montifringilla congener*, ALDROV. *Orn.* II., p. 821, Pl. 823.—*Le Grand Montain*, BUFF. *Ois.* IV., p. 134.—*Le Pinson de Montagne*, GERARDIN, *Tabl. Elem. d'Orn.* i., p. 186.—*Lerchen Finch*, BECHST. *Naturg. Deutsch.* III., p. 246, Sp. 16. NAUM. *Nachtr.* III., p. 25, Pl. 20, B Female, Pl. 40, Male in autumn.—*Greater Brambling*, ALB. III., p. 59, Pl. 63.—*Lapland Finch*, PENN. *Arct. Zool.* II., Sp. 259. LATH. *Syn.* IV., p. 263, Sp. 14. UBERS. III., p. 256, Sp. 14.

THIS species, long since known to inhabit the desolate Arctic regions of both continents, is now for the first time introduced into the Fauna of the United States; having been omitted both in our Synopsis and Catalogue. It is entitled to be ranked among the birds of this country, from the fact, that a few stragglers out of the numerous bands which descend in winter to comparatively warm latitudes, show themselves almost every year in the higher, unsettled parts of Maine, Michigan, and the Northwestern territory. Even larger flocks are known not unfrequently to enter the territory of the Union; where, contrary to what is generally supposed, they are observed to alight on trees, as well as on the ground, notwithstanding their long and straight hind nail. We think it highly probable that some individuals, especially in their youth, visit in cold winters the mountainous districts of the Middle States; as they are well known in Europe to wander or stray to the more temperate climates of Germany, France, England, and especially Switzerland; in all which countries, however, the old birds are never seen. It is not extraordinary that they should never have been observed in the Atlantic States, as they are nowhere found in maritime countries.

No figure of the adult male in perfect plumage, has before now, we believe, been given; and no representation at all is to be met with in the more generally accessible books, or collections of plates. Mr. Selby

has lately published a figure of the young in the Linnean Transactions, and it will also, we presume, appear in his splendid work, which yields to none but Naumann's, Wolf's, and Wilson's, in point of accuracy and character. That recorded by him appears to be the first instance of an individual having been found in Britain. The species is common in the hilly districts of eastern Europe, but is chiefly confined within the Polar Circle, though found abundantly in all the northern mountainous districts of Europe and Asia, particularly Siberia and Lapland. It is sometimes known to descend in autumn and winter, and, though very rarely, in spring, either singly and astray, or in immense clouds, into the north and middle of Germany. Great numbers were seen in the neighborhood of Frankfort on the Maine, in the middle of November, 1821. In France they are restricted to the loftiest and most inaccessible mountains, where they are very rare, so much so, that in those of the Vosges, Gerardin only met with a single specimen after six years' researches; though more frequent in the mountains of Dauphiné. They are common during summer in Arctic America; and are found at Hudson's Bay, in winter, not appearing before November: near the Severn river they haunt the cedar-trees, upon whose berries they feed exclusively. These birds live in large flocks, and are of so social a disposition, that when separated from their own species, or when in small parties, they always join company with the common Lark of Europe; or in America, with some of the different Snow-birds. They feed chiefly on seeds, especially of the dwarf willows growing in frozen and mountainous countries, but occasionally also on leaves, grass, and insects. They breed on small hillocks, in open marshy fields; the nest is loosely constructed with moss and grasses, lined with a few feathers. The female lays five or six oblong eggs, yellowish rusty, somewhat clouded with brown. The Lapland Longspur, like the Larks, never sings but suspended aloft in the air, at which time it utters a few agreeable and melodious notes.

As may be seen by the synonyms at the head of this article, this bird has been condemned by nomenclators to fluctuate between different genera. But between *Fringilla* and *Emberiza* it is not difficult to decide, as it possesses all the characters of the latter in an eminent degree, even more so than its near relative the Snow-Bunting, which has never been misplaced. It has even the palatine knob of *Emberiza*, and much more distinctly marked than in the Snow-Bunting (*Emberiza nivalis*). It has been erroneously placed in *Fringilla*, merely on account of its bill being somewhat wider and more conic.

Meyer has lately proposed for the two just mentioned nearly allied species, a new genus under the name *Plectrophanes* (corresponding to the English name we have used): this we have adopted as a sub-genus, and are almost inclined to admit as an independent genus, being well

characterized both by form and habits. The two species of *Plectrophanes*, to which we apply the name of Longspur, together with the Buntings, are well distinguished from the Finches by their upper mandible, contracted and narrower than the lower, their palatine tubercle, &c. From the typical *Emberizæ* they differ remarkably by the length and straightness of their hind nail, and the form of their wings, which, owing to the first and second primaries being longest, are acute. In the true Buntings, the first quill is shorter than the second and third, which are longest. This species, in all its changeable dresses, may at once be known by its straight and very long hind nail, which is twice as long as the toe. The bill is also stronger and longer than in the other species.

The Longspurs are strictly Arctic birds, only descending in the most severe and snowy winters to less rigorous climates, and never to the temperate zone, except on the mountains. Hence they may with the greatest propriety be called Snow-birds. They frequent open countries, plains, and desert regions, never inhabiting forests. They run swiftly, advancing by successive steps like the Larks (which they resemble in habits, as well as in the form of their hind nail), and not by hopping, like the Buntings. The conformation of their wings also gives them superior powers of flight to their allied genera, the Buntings and Finches. Their moult appears to be double, and notwithstanding Temminck's and my own statement to the contrary, they differ much in their summer and winter plumage. Owing to this, the species have been thoughtlessly multiplied: there are in reality but two, the present, and Snow-Bunting of Wilson.

The Male Lapland Longspur in full breeding dress, is nearly seven inches long, and twelve and a quarter in extent; the bill is nearly half an inch long, yellow, blackish at the point; the irides are hazel, and the feet dusky. The head is thickly furnished with feathers. The forepart of the neck, throat, and the breast, are glossy black; the hind-head is of a fine reddish rusty; a white line arises from the base of the bill to the eye, behind which it becomes wider, descending on the sides of the neck somewhat round the breast; the belly and vent are white; the flanks posteriorly with long blackish streaks. The back and scapulars are brownish black, the feathers being skirted with rusty; the smaller wing coverts are blackish, margined with white; the greater coverts margined with rufous, and white at tip, forming two white bands across the wings: the primaries are blackish, edged with white; secondaries emarginated at tip, dusky, edged with rusty: the wings when closed reach to three-fourths the tail. The tail is two and a half inches in length, rather forked, and of a blackish color; the outer feather on each side with a white cuneiform spot; and the outer web almost entirely white; the second with a white cuneiform spot only. The hind nail is almost an inch long.

The adult female is somewhat smaller than the male. In spring she has the top of the head, the shoulders, back, and wing-coverts brownish black, the feathers being edged with rusty; the sides of the head blackish intermixed with rusty; over the eyebrows a whitish line, as in the male, tinged with rusty; the nucha and rump are brownish rusty, with small black spots; the throat is white, encircled with brown; remaining inferior parts white: wings and tail as in the other sex.

The male in autumn and winter has the bill brownish yellow; irides and feet brownish. Head black, varied with small spots of rusty, auriculars partly encircled with black feathers; throat yellowish white, finely streaked with deep black. Fore-neck and breast black, mixed with grayish white; the line passing through the eye down the breast yellowish white, becoming darker on the breast; lower surface from the breast white, spotted on the flanks. Wings deep blackish chestnut, crossed by two white lines; primaries on the inside at tip margined with white. Tail forked, brownish black, all the feathers margined with rusty, the two outer with a white cuneiform spot at tip.

The dress of the female in autumn and winter is as follows: head, and neck above, shoulders and back, grayish rusty, with blackish spots, the rusty predominating on the neck and rump; the superciliar line whitish rusty, uniting with a white streak from the angle of the bill: throat white each side, with a brownish line; upper part of the breast grayish, spotted with black; inferior parts white; the flanks with longitudinal blackish marks.

The young of both sexes, during the first year, are of a yellowish brown above, tinged with grayish, streaked and spotted with blackish, the shafts of the feathers being of that color; the cheeks and auriculars are brownish, the latter mixed with black, a small blackish spot, that spreads as the bird advances in age, is already visible near the opening of the ears; above the eye is a broad streak of pale brownish; the throat is yellowish white, slightly streaked with brown, and with a blackish line each side coming from the corner of the lower mandible; the lower portion of the neck and breast is of a dingy, reddish white, more intense, and thickly spotted with blackish brown on the breast and flanks; the belly and vent are almost pure whitish. The wing-coverts and secondaries are blackish brown, margined with dark rusty, and tipped with white: the primaries are dusky brown, paler at the edge. The tail-feathers are dusky, and also margined with deep rusty; the outer bearing a reddish white conic spot, which is merely longitudinal, and narrow, on the next. The bill is entirely of a dirty yellowish brown; the feet are dusky brown: the hind nail, though still longer than its toe, is much shorter, and not quite so straight.

The figures represent an old male, and a young female.

GARRULUS FLORIDANUS.

FLORIDA JAY.

[Plate XIV. Fig. 1.]

Garrulus cyaneus, VIEILL. *Nouv. Dict. d'Hist. Nat.* XII., p. 476.—*Garrulus cærulescens*, VIEILL. *Nouv. Dict. d'Hist. Nat.* XII., p. 480.—*Garrulus cærulescens*, ORD, in *Journ. Ac. Nat. Sc. Phila.* I., p. 346.—*Corvus floridanus*, NOB. *Syn. Am. Birds*, Sp. 64, in. *Ann. Lyc. N. Y.* ID. *Cat. Birds U. S.* Sp. 64, in *Contr. Macl. Lyc. Phil.*—*Corvus floridanus*, *Pica glandaria minor*, the *Little Jay of Florida*, BART. *Tr.* p. 290.—*Pica glandaria cærulea non cristata*, BART. *Trav.* p. 172.—*Le Geay azurin*, and *Le Geay gris-bleu*, VIEILL. *Nouv. Dict. l. c.*

A SINGLE glance at the plate on which this fine bird is represented, and at that of the preceding, or Steller's Jay, will suffice better than the longest description, to show the error committed by Latham, in quoting in his recent work (*General History of Birds*), the name of this species among the synonymes of that dedicated to Steller. In fact, the large crest of that species (of which the present is altogether destitute), and its black head; the light brown back, and bluish collar of this—but it is needless to carry the comparison between them any further, they are too dissimilar to suffer it, and we shall reserve pointing out differences until required by closely related species, of which more striking examples will not long be wanting.

Mistakes of this kind are perhaps unavoidable in a compilation of such extent as the work we have mentioned, and if they proceeded from a laudable desire of excluding nominal species, evinced throughout, we should refrain from censure; but when, on the contrary, we find in the same work such repeated instances of an inconsiderate multiplication of species, they cannot be too severely condemned.

Vieillot, in the case of this bird, has fallen into the contrary, and much more common error, of making two species out of it; one from personal observation, and the other by compilation. This mistake has already been corrected by Mr. Ord, in a valuable paper which he drew up on his return from Florida, where he enjoyed the advantage of studying this species in its native haunts.

"When we first entered East Florida," says Mr. Ord, "which was in the beginning of February, we saw none of these birds; and the first that we noticed were in the vicinity of St. Augustine, on the thirteenth of the above mentioned month. We afterwards observed them daily in the thickets near the mouth of the St. Juan. Hence we conjectured that

the species is partially migratory. Their voice is not so agreeable as that of the *Garrulus cristatus*, or Crested Blue Jay of the United States; they are quarrelsome, active, and noisy; and construct their nests in thickets. Their eggs I have not seen." "The Blue Jay, which is so conspicuous an ornament to the groves and forests of the United States, is also common in Florida. This beautiful and sprightly bird we observed daily, in company with the Mocking-bird and the Cardinal Grosbeak, around the rude habitations of the disheartened inhabitants, as if willing to console them amid those privations which the frequent Indian wars, and the various revolutions which their province has experienced, have compelled them to bear." The Florida Jay, however, is a resident in that country, or only removes from section to section. It is not confined to Florida, where it was first noticed by Bartram, being found also in Louisiana, and in the West extends northward to Kentucky; but along the Atlantic, not so far. In East Florida it is more abundant, being found at all seasons in low thick covers, clumps, or bushes. They are most easily discovered in the morning about sunrise on the tops of young live-oaks, in the close thickets of which they are found in numbers. Their notes are greatly varied, and in sound have much resemblance to those of the Thrush and the Blue Jay, partaking a little of both: later in the day it is more difficult to find them, as they are more silent, and not so much on the tree-tops as among the bushes, which are too thickly interwoven with briars and saw-palmettoes to be traversed; and unless the birds are killed on the spot, which they seldom are when struck with fine shot, it is next to impossible to come at them in such situations. This species, like its relatives, is omnivorous, but being inferior in strength, does not attack large animals. The stomachs of our specimens contained small fragments of shells, sand, and half-digested seeds.

The Blue Jays, though also found in the same localities, are not so numerous: they keep more in the woods, and their note is louder.

The Florida Jay is eleven and a half inches long, and nearly fourteen in extent; the bill is one inch and a quarter long, hardly notched, and of a black color, lighter at tip; the incumbent setaceous feathers of the base are grayish blue, mixed with a few blackish bristles; the irides are hazel brown; the head and neck above, and on the sides, together with the wings and tail, are bright azure; the front, and a line over the eye, bluish white; the lores and cheeks of a duller blue, somewhat mixed with black; the back is yellowish brown, somewhat mixed with blue on the rump, the upper tail-coverts being bright azure; the inner vanes and tips of the quills are dusky, their shafts, as well as those of the tail-feathers, being black. All the lower parts are of a dirty pale yellowish gray, more intense on the belly, and paler on the throat, which is faintly streaked with cinereous, owing to the base of the plumage appearing from underneath, its feathers having blackish, bristly shafts,

some of them without webs. From the cheeks and sides of the neck, the blue color passes down along the breast, and forms a somewhat obscure collar; the under wing, and under tail-coverts are strongly tinged with blue, which color is also slightly apparent on the femorals; the inferior surface of the wings and tail is dark silvery gray; the base of the plumage is plumbeous ash, blackish on the head: the wings are four and a half inches long, and reach, when closed, hardly beyond the coverts of the tail, which is five and a half inches long, extending beyond the wings three and a half; the spurious feather is extremely short; the first primary (often mistaken for the second), is as short as the secondaries; the five succeeding are subequal, the third and fourth being rather the longest. The tail is somewhat wedge-shaped, the outer feather being half an inch shorter than the next, and one inch and a half shorter than the middle one. The tarsus is an inch and a quarter long, and black, as well as the toes and nails.

The female is perfectly similar to the male, being but a trifle less in size, and quite as brilliant in plumage.

Two years since it fell to our lot to describe, and apply the name of Ultramarine Jay (*Garrulus ultramarinus*), to a species found in Mexico, closely resembling this, and to which Mr. Swainson, in his Synopsis of Mexican Birds, has lately given the name of *Garrulus sordidus*, his specimen being probably a young one. The principal distinctive characters may be found in its larger dimensions, but especially in the shape of its tail, which is perfectly even, and not in the least cuneiform, as it generally is in the Jays. The back, though it is also somewhat intermixed with dusky, is much more blue than in our species, and indeed the whole azure color is somewhat more brilliant and silky; the bluish collar is wanting, and the under wing, but especially the under tail-coverts, are much less tinged with blue. The wings, moreover, are proportionally larger.

PICUS TRIDACTYLUS.

NORTHERN THREE-TOED WOODPECKER.

[Plate XIV. Fig. 2.]

Picus tridactylus, LINN. *Syst.* I., p. 177, Sp. 21. GMEL. *Syst.* I., p. 439, Sp. 21. *Faun. Succ.* Sp. 103. *Act. Holm.* 1740, p. 222. *Phil. Trans.* LXII., p. 388. SCOP. *Ann.* I., Sp. 56. GEORGI, *Reise*, p. 165. BOROWSK. *Nat.* II., p. 138, Sp. 8. LATH. *Ind.* p. 243, Sp. 56. MEYER & WOLF, *Tasch. Deutsch. Vog.* I., p. 125, Sp. 8. TEMM. *Man. Orn.* I., p. 401, young. BREHM. *Lehr. Eur. Vog.* I., p. 142. RANZ. *Elem. Orn.* II., p. 184, Sp. 9, Tab. 7, Fig. 4.—*Picus hirsutus*, VIEILL. *Ois. Am. Sept.* II., p. 68, pl. 124, adult Male.—*Picoides*, LACEPEDE.—*Dendrocopos tridactylus*, KOCH. *Baierische Zool.*—*Tridactylia hirsuta*, STEPHENS, in *Shaw's Zool.* IX., p. 219.—*Picus tridactylus anomalus*, MUS. PETR. 368.—*Picchio a tre dita*, STOR. *degli Ucc.* II., pl. 180.—*Pic tridactyle*, ou *Picoide*, TEMM. *l. c.*—*Dreizehiger Specht*, BECHST. *Nat. Deutschl.* II., p. 1044. NAUM. *Vog. Nachtr.* pl. 41, Fig. 81. MEYER & WOLF, *Ois. d'Allem. Cah.* 26, pl. 4, Male; pl. 6, Female.—*Northern Three-toed Woodpecker*, EDWARDS, pl. 114, Male.—*Three-toed Woodpecker*, PENN. *Arct. Zool.* Sp. 168. LATH. *Syn.* II., p. 600, Sp. 51. *Id. Suppl.* p. 112.

THIS species is one of those, which from their habitation being in the extreme north, have a wide range round the globe. It is in fact met with throughout northern Asia and Europe, from Kamtschatka to the most eastern coasts of the old continent; and in America, is very common at Hudson's Bay, Severn river, Fort William on Lake Superior, and throughout the north-west, in hilly and wooded tracts. In the United States it is only a rare and occasional winter visitant, never having been received by us except from the northern territory of the state of Maine. The species, contrary to what is observed of most other Arctic birds, does not appear to extend so far south comparatively as in Europe, though it is not improbable that on this continent it may also inhabit some unexplored mountainous districts, resembling the wild regions where only it is found in Europe. In both continents, the species affects deep forests among mountains, the hilly countries of northern Asia and Europe, and the very lofty chains of central Europe, whose elevation compensates for their more southern latitude. It is exceedingly common in Siberia, is abundant in Norway, Lapland, and Dalecarlia, among the gorges of Switzerland and the Tyrol, especially in forests of pines. It is not uncommon in the canton of Berne, in the forests near Interlaken, though very rare in Germany and the more temperate parts of Europe. It is well known even to breed in Switzer-

land, and deposits, in holes formed in pine-trees, four or five eggs of a brilliant whiteness; its voice and habits are precisely the same as those of the spotted Woodpeckers. Its food consists of insects and their larvæ and eggs, and sometimes seeds and berries. It is easily decoyed by imitating its voice.

This species is eminently distinguished among the North American and European Woodpeckers, by having only three toes, the inner hind toe being wanting; besides which it has other striking peculiarities, its bill being remarkably broad, and flattened, and its tarsi covered with feathers half their length: the tongue is moreover not cylindrical, but flat and serrated at the point, which conformation we have however observed in the three European spotted Woodpeckers, and in the American *Picus varius*, *villosus pubescens*, and *querulus*. In all these species the tongue is flat, with the margins projecting each side and serrated backwards, plain above, convex beneath, and acute at the tip.

Linné, Brisson, and other anterior writers confounded this northern bird with a tropical species, the Southern Three-toed Woodpecker, *Picus undulatus* of Vieillot, which inhabits Guiana, and, though very rarely, Central America, but never so far north as the United States. It is the southern species of which Brisson has given us the description, while Linné described the present. It is nevertheless probable that he had the other in view, when he observes that in European specimens the crown was yellow, and in the American, red, though, as he states, from Hudson's Bay. The latter mistake was corrected by Latham, who however continued to consider the southern as no more than a variety, in which he was mistaken, since they are widely distinct; but as he had no opportunity of seeing specimens he is not to be censured, especially as he directed the attention of naturalists to the subject. The merit of firmly establishing the two species, is, we believe, due to Vieillot. Besides several other traits, the northern bird is always to be distinguished in every state of plumage from its southern analogue, by that curious character whence Vieillot took his highly characteristic name (*Picus hirsutus*, *Pic à pieds vêtus*), the feathered tarsi, a peculiarity which this alone possesses to the same extent. The plumage is an uniform black above in the adult, with the top of the head yellow in the male; while the southern, whose tarsi are naked, is black undulated with white, the male having the sinciput red. It is worthy of remark, that the three-toed group, found in Arctic, and in tropical America, should have no representative in the intermediate countries.

Although these are the only three-toed Woodpeckers noted as such in the books, several others are known to exist, some of which, long since discovered, have through inadvertence, or want of proper discrimination, been placed among the four-toed species. The three-toed Woodpeckers have been formed into a separate genus, a distinction to

which they might indeed be considered entitled, if they all possessed the other characters of the present; but besides that this character appears to be insulated, and of secondary importance (since all forms of the bill known among the four-toed species; are met with among the three-toed, which ought therefore to make as many groups as there are forms, instead of a single one), the naturalist is perplexed by the anomalous species that inhabit India, of which one has only a stump destitute of nail, and another merely a very small nail without the toe; and as if nature took delight in such slow and gradual transitions, two others furnished with both toe and nail, have the toe exceedingly short, and the nail extremely small! This serves to demonstrate that *Picus*, like other natural groups, admits of subdivision. These however ought not to be separations; and the genus has been left comparatively untouched by the great innovators of our day, who have only established three genera from it. The first of these, *Colaptes*, of which *P. auratus* of North America may be considered the type, comprises the species that have four toes, and slightly curved bills, forming the passage to *Cuculus*; another, for which the name of *Picus* is retained, includes the four-toed species with straight bills, and the third for the three-toed species indiscriminately. The only foreign three-toed species in our collection, the beautiful *Picus bengalensis* of authors (*Picus tiga* of Horsfield), widely spread through tropical Asia and the adjacent islands, and, though long since known, always ranked as four-toed, has the bill precisely similar to the four-toed species, being even remarkably compressed, and very sharp on the ridge.

The male Northern Three-toed Woodpecker is ten inches long, and sixteen in extent; the bill measures one inch and a quarter, is of a blackish lead-color, bluish white at the base of the lower mandible; it is very broad at base, cuneiform and obtuse at tip, and much depressed throughout, the ridge being very much flattened: both mandibles are perfectly straight; the upper pentagonal, the lower obtusely trigonal; the tongue is somewhat shorter than that of other species of the genus; the bristly feathers at the base of the bill are very thick and long, a provision which nature has made for most Arctic birds; in this they measure half an inch, and are blackish, white at base, somewhat mixed with reddish white; the irides are bluish black; the whole head and neck above and on the sides, back, rump, scapulars, smaller wing and tail-coverts, constituting the whole upper surface of the bird, of an uniform, deep, glossy black, changing somewhat to green and purple, according to the incidence of light; the feathers of the front are tipped with white, producing elegant dots of that color (which perhaps disappear with age); the crown of the head is ornamented with a beautiful oblong spot one inch in length, and more than half an inch broad, of a bright silky golden yellow, faintly tinged with orange, and the feathers

in this place very fine, and somewhat rigid; they are black at their base, and marked with white at the limits of the two colors; the base of the plumage elsewhere is uniformly plumbeous ash: each side from the corner of the mouth, arises a broad white line, forming a white space before the eye, prolonged on the neck; beneath this there is a black one which passing from the base of the lower mandible, joins the mass of black of the body; a tuft of setaceous white feathers advances far upon the bill beneath; the throat, breast, middle of the belly, and tips of the under tail-coverts are pure white; the sides of the breast, flanks broadly, and base of the tail-coverts, and even of some of the belly feathers, are thickly waved with lines of black and white, as well as the femoral and short tarsal feathers: in very old birds, as the one represented in the plate, these parts are considerably less undulated, being of a much purer white; the wings are five inches long, reaching two-thirds the length of the tail; the spurious feathers is exceedingly short, the first primary hardly longer than the seventh; and the four following subequal and longest; the smaller wing-coverts, as mentioned, glossy black: all the other upper coverts, as well as the quills, are of a dull black, the primaries being somewhat duller; these are regularly marked on both webs with square white spots, larger on the inner webs, and as they approach the base; the secondaries are merely spotted on the inner vane, the spots taking the appearance of bands; the tips of all the quills are unspotted, the lower wing-coverts are waved with black and white, similar to the flanks; the tail is four inches long, of the shape usual in the Woodpeckers, and composed of twelve feathers of which the four middle, longest, and very robust and acute, are plain deep black, the next on each side is also very acute, and black at base, cream white at the point, obliquely and irregularly tipped with black; the two next to these are cream white to the tip, banded with black on the inner vane at base, the more exterior being much purer white and somewhat rounded; the exterior of all is very short and rounded, and banded throughout with black and pure white: the tarsus is seven-eighths of an inch long, feathered in front for nearly half its length, and, with the toes and nails, dark plumbeous; the nails are much curved, and acute, the hind one being the largest.

The above is a minute description of our finest male specimen, with which all those we have examined coincide more or less. By comparing, however, this description with the detailed ones found in some works, we must conclude that the species is subject to variations in size and plumage, which according to the erroneous impression given by authors, could not be satisfactorily accounted for by difference of sex, age, or locality: thus, in some specimens the cervix is described white, or partly whitish, instead of being wholly black: the back is also said to be waved with white; which is indeed the case, and with the cervix also, but only

in young birds. There is a circumstance however that could not be explained by supposing a difference of age, for while some specimens are seen with no appearance of white or yellow on the crown, but having that part as well as the body, rich shining black, others with a good deal of lemon yellow on that part, are of a duller black, much varied with white. As in other doubtful and intricate cases, these obscurities are dissipated by a close inspection and unprejudiced observation of nature, and we feel much gratification in being enabled to unveil to ornithologists the mystery of these diversities of plumage in this species, by merely pointing out the sexual differences, as well as those originating in the gradual change from youth to maturity in both sexes; which when understood, will not be found more extraordinary than in other species.

The adult female has never been recognised by any author, nor, hitherto, even by ourselves, having been misled by others in taking the young for her; and this we have only discovered by inspecting a great many specimens. She is precisely similar to the male, even in the minutest particulars, excepting the absence of yellow on the head, this part being of a rich and glossy black.

The young of both sexes are of a dull blackish; the setaceous feathers of the nostrils are grayish, somewhat tinged with rusty; all the feathers of the crown are tipped with white, constituting thick dots on that part, to which they give a silvery appearance; the cheek-bands are obscure and much narrower; the cervix is more or less varied with white, and the feathers of the back being banded with white, gives to that part a waved appearance; the under parts are more thickly waved with black: six, instead of four, of the middle tail-feathers are almost wholly black, the outer of the six having only two or three whitish spots on the outer web. The remaining parts, with due allowance, are similar to the adult.

The young male gradually assumes the yellow, which is at first but little extended, and of a pale lemon color, through which are yet for some time seen the white dots attributed to the female. She indeed has them very conspicuous in youth, as they are not confounded with any yellow, but loses them entirely as she advances to the adult state.

PICUS ERYTHROCEPHALUS.

YOUNG RED-HEADED WOODPECKER.*

[Plate XIV. Fig. 3.]

Picus erythrocephalus, LINN. *Syst.* I., p. 174, Sp. 7. *Mus. Adolph. Frid.* II., p. 21. BRISS. *Orn.* IV., p. 52, Sp. 19, Pl. 3, fig. 1. ID. 8vo. II., p. 50. GMEL. *Syst.* I., p. 429, Sp. 7. BOROWSK. *Nat.* II., p. 136, Sp. 4. LATH. *Ind.* p. 227, Sp. 9, adult. VIEILL. *Ois. Am. Sept.* II., p. 60, Pl. 112, adult; Pl. 113, young.—*Picus obscurus*, GMEL. *Syst.* I., p. 429, LATH. *Ind.* p. 228, Sp. 11, young.—*Picus capite toto rubro*, the Red-headed Woodpecker, CATESBY, *Car.* I., Pl. 20, adult.—*Picus capite colloque rubris*, KLEIN, *Av.* p. 28, Sp. 12, adult.—*Picus capite toto rubro*, KALM, *It.* III., Pl. 43, adult.—*Pirchio di testa rossa*, *Storia degli Ucc.* Pl. 170, adult.—*Pic noir à domino rouge*, BUFF. *Ois.* VII., p. 55, adult.—*Pic de Virginie*, BUFF. *Pl. Enl.* 117, adult.—*Pic tricolor*, VIEILL. l. c. adult and young.—*Red-headed Woodpecker*, PENN. *Arct. Zool.* Sp. 160. KALM, *Trav. (Angl.)* II., p. 86. LATH. *Synop.* II., p. 561, adult.—*White-rumped Woodpecker*, LATH. *Syn.* II., p. 563, Sp. 10, young.

THE state in which the common Red-headed Woodpecker is here represented, has given rise to a nominal species; and it is in fact so difficult to recognise for that bird, that we have thought proper, after the example of Vieillot, to give an exact figure of it. We feel no diffidence in affirming, that in this, through the exertions of Messrs. Rider and Lawson, we have fully succeeded; and it will perhaps be allowed to be the best representation of a bird ever engraved. We have nothing to add to Wilson's excellent account of the manners of this very common species, and therefore shall limit ourselves to the description of the young as represented.

The young Red-headed Woodpecker is nine and a half inches long, and seventeen inches in extent. The bill is short and robust, being but one-eighth more than an inch in length: the upper mandible has the ridge slightly curved: the bill is horn color, whitish at base beneath; the setaceous feathers covering the nostrils are very short, and not thick, rufous gray tipped with black; the whole head, neck, and upper parts of the breast (which are red in the adult), are blackish, each feather broadly edged with whitish, giving the throat the appearance of being whitish streaked with blackish; the auriculars are plain dusky black; from the breast beneath all is dingy white, the feathers of the breast and lower tail-coverts having dusky shafts: the back and scapulars are black, the feathers being margined with whitish gray; the rump and upper tail-coverts pure white; the wings are five inches and a half long; the spurious feather very short, the first primary subequal

* See Wilson's *American Ornithology*, I., p. 175, Pl. 9, fig. 1, for the adult.

to the fifth, the second to the fourth, the third being longest; the smaller wing-coverts are uniform with the back; the larger are of a deeper black, and tipped with pure white; the spurious wing is wholly deep black; the under wing-coverts are pure white, blackish along the margin of the wing; the primaries are plain black, tipped and edged externally with whitish; the secondaries are white, shafted with black, and with an acuminate, broad, subterminal band, which running from one to the other, takes a zigzag appearance; the tail is four inches long, and, like those of all the Woodpeckers we have examined, composed of twelve feathers, of which the outer on each side is extremely short and inconspicuous, and pure white, with a black shaft. All the others, which are very acute, longer, and more acuminate, and stiffer as they approach the centre, are black, and except the two middle ones, slightly whitish each side of the shaft at tip, the outer being also of that color on its outer margin. The feet are dark plumbeous, the tarsus being seven-eighths of an inch long, and feathered for a short space in front.

The young of both sexes are, no less than the adult, perfectly alike; as they advance in age, the margins of the feathers disappear, and the black becomes deep and glossy, and all the colors much purer; the scarlet of the head comes on very gradually, so that specimens are found with merely a reddish tinge, and generally with a few dots on the hind neck: it is one of these specimens with a few streaks of red, that we have selected for the sake of ornamenting the plate, as well as to exemplify the manner in which the change takes place. No such mark appears at first.

In the adult the whole head, neck, and breast, are bright and deep scarlet, with the feathers black at base; the back, scapulars, and smaller wing-coverts are rich glossy black; the rump, upper tail-coverts, and from the breast beneath, white, the bottom of the plumage being plumbeous, and the tail-coverts with blackish shafts; the wings and tail are black; the lower wing-coverts pure white, with the margin of the wing deep black; the secondaries are white, shafted to near the tip with black; the last of the primaries being also white at tip, and on the greater part of the base of the outer vane; the small lanceolate outer feather is white, black on the shaft and base of the inner vane; the two next only being tipped with white, the outer of which is also white on the exterior margin.

FRINGILLA VESPERTINA.
EVENING GROSBEAK.

[Plate XV. Fig. 1.]

Fringilla vespertina, COOPER, in *Ann. Lyc. New York*, I., p. 220. *NOB. Cat. Birds*.
U. S. Sp. 188, in *Contr. MacL. Lyc. Phila.* I., p. 21. *Id. Syn. Birds*, U. S. Sp.
188, in *Ann. Lyc. N. Y.* II., p. 113. *Id. Suppl. in Zool. Journ. London*, IV., p. 2.

FEW birds could form a more interesting acquisition to the Fauna of any country than this really fine Grosbeak. Beautiful in plumage, peculiar in its habits, important to systematical writers, it combines advantages of every kind. It was named and first described by Mr. Cooper, and little has since been discovered of its history to be added to the information he has collected and given us in the journal above quoted. The species appears to have an extensive range in the northern and north-western parts of this continent, being met with from the extremity of the Michigan territory to the Rocky Mountains, within the same parallels. It is common about the head of Lake Superior, at Fond du Lac, and near the Athabasca Lake. A few were observed by Mr. Schoolcraft during the first week of April, 1823, about Sault Sainte Marie, Michigan territory, where they remained but a short time, and have not appeared since; and by Major Delafield in the month of August of the same year, near the Savannah river, north-west from Lake Superior. They appear to retire during the day to the deep swamps of that lonely region, which are covered with a thick growth of various trees of the coniferous order, and only leave them in small parties at the approach of night. Their note is strange and peculiar, and it is only at twilight that they are heard crying in a singular strain. This mournful sound, uttered at such an unusual hour, strikes the traveller's ear, but the bird itself is seldom seen; though, probably from its unacquaintance with man, it is so remarkably tame and fearless as almost to suffer itself to be caught with the hand.

The specimen of the Evening Grosbeak presented to the Lyceum of New York by Mr. Schoolcraft, from which Mr. Cooper established the species, was thought until lately the only one in possession of civilized man; but we have since examined two others shot early in the spring on the Athabasca Lake, near the Rocky Mountains, and preserved among the endless treasures of Mr. Leadbeater of London. From the more perfect of these, our plate, already engraved from Mr. Cooper's specimen, has been faithfully colored; and the subjoined description is carefully drawn up from a perfect specimen now before us, which

Mr. Leadbeater with the most obliging liberality has confided to our charge.

Although we consider the Grosbeaks (*Coccothraustes*) as only a subgenus of our great genus *Fringilla*, they may with equal propriety constitute one by themselves; as the insensible degrees by which intermediate species pass from one form into another (which determined us in considering them as a subgenus, and not a genus), are equally observable between other groups, though admitted as genera. *Coccothraustes* is as much entitled to be distinguished generically from *Fringilla*, as *Turdus* from *Sylvia*; and at all events, its claim is full as good, and perhaps better, than its near relation *Pyrrhula*. In the present work, however, we have preferred retaining things as we found them, until we can apply ourselves to the work of a general reform, as announced in the first article of this volume. Though we regard the Grosbeaks as a subgenus, others going to the opposite extreme, have erected them into a separate family, composed of several genera. The Evening Grosbeak is however so precisely similar in form to the Hawfinch-type of the group, as to defy the attempts of the most determined innovators to separate them. Its bill is as broad, as high, quite as strong and turgid, with both mandibles equal, the upper depressed and rounded above, and the commissure straight. It conforms even, in a slight degree, in the rhomboidal shape of the ends of the secondaries, a character so conspicuous in its analogue; to which, in the distribution and transitions of its tints, though very different, it also bears a resemblance. It is however of the four North American species of its group, the only one so strictly allied, for even the Cardinal Grosbeak, the most nearly related of these species, on account of its short rounded wings and other minor traits, might be separated, though fortunately it has not as yet to our knowledge: the others have been already.

The Evening Grosbeak is eight and a half inches long; its bill is of a greenish yellow, brighter on the margins, seven-eighths of an inch long, five-eighths broad, the same in height; the capistrum and lora are black: the front is widely bright yellow, prolonged in a broad stripe over the eye to the ears; the hind crown is black, intermixed with yellow, visible only on separating the feathers, but leading to the suspicion that at some period the yellow extends perhaps all over the crown: the sides and inferior parts of the head, the whole neck above and beneath, together with the interscapulars and breast, are of a dark olive brown, becoming lighter by degrees; the scapulars are yellow, slightly tinged with greenish; the back, rump, with the whole lateral and inferior surface, including the under wing and under tail coverts, yellow, purer on the rump, and somewhat tinged with olive brown on the belly. Although these colors are all very pure, they are not definitely separated, but pass very insensibly into each other; thus the

black of the crown passes into the dark brown of the neck, which becoming lighter by degrees, is blended with the yellow of the back: the same thing takes place beneath, where the olive brown of the breast passes by the nicest gradations into the yellow of the posterior parts: the whole base of the plumage is pale bluish plumbeous, white before the tips of the feathers; the femorals are black skirted with yellow; the wings are four and a half inches long; the smaller, middling, and exterior larger wing-coverts are deep black, as well as the spurious wing; those nearest the body are white, black at the origin only; the quills are deep black, the three outer being subequal and longest, attenuated on their outer web at the point, and inconspicuously tipped with whitish; the secondaries are marked with white on their inner web, that color extending more and more as they approach the body, the four or five nearest being entirely pure white, like their immediate coverts, and slightly and inconspicuously edged with yellow externally; the tail is two and a half inches long, slightly forked, and as well as its long superior coverts, very deep black; the outer feather on each side has on the inner vane, towards the tip, a large, roundish, white spot, which seems disposed to become obliterated, as it is much more marked on one, than on that of the other side which corresponds to it, and does not exist in all specimens: a similar spot is perceptible on the second tail-feather, where it is however nearly obliterated; the feet are flesh color, the nails blackish, the tarsus measuring three-quarters of an inch.

No difference of any consequence is observable between the sexes; though it might be said that the female is a little less in size, and rather duller in plumage.

FRINGILLA LUDOVICIANA.

FEMALE ROSE-BREASTED GROSBEAK.*

[Plate XV. Fig. 2.]

Loxia ludoviciana, LINN. *Syst.* I., p. 306, Sp. 38. GMEL. *Syst.* I., p. 862, Sp. 38. LATH. *Ind.* p. 379, Sp. 25.—*Fringilla punicea*, GMEL. *Syst.* I., p. 291, Sp. 81. LATH. *Ind.* p. 444, Sp. 34, adult Male.—*Loxia maculata*, GMEL. *Syst.* I., p. 861, Sp. 87. LATH. *Ind.* p. 379, Sp. 26, young.—*Loxia obscura*, GMEL. I., p. 862, Sp. 88. LATH. *Ind.* p. 379, Sp. 27, Female.—*Coccothraustes ludoviciana*, BRISS. *Orn.* III., p. 247, Sp. 14, Pl. 12, Fig. 2. ID. 8vo. I., p. 378.—*Coccothraustes rubricollis*. VIEILL. *Gal. Ois.* I., Pt. II., p. 67, Pl. 58 (very bad), and *Dict.*—*Pyrrhula ludoviciana*, SABINE, *Zool. App. to Frankl. Exp.* p. 675.—*Fringilla ludoviciana*, NOB. *Obs. Nom. Wils. Orn.* Sp. 80. ID. *Cat. Birds U. S.* Sp. 189. ID. *Syn. Birds U. S.* Sp. 189.—*Guiraca ludoviciana*, SWAINSON, *Syn. Mex. Birds*, Sp. 76, in *Phil.*

* See *Rose-breasted Grosbeak*, *Loxia rosea (ludoviciana)*, WILS. *Am. Orn.* II., p. 54, Pl. 17, Fig. 1, for the Male.

Mag. N. S. I., p. 438.—*Le Rose-gorge*, BUFF. *Ois.* III., p. 460.—*Gros-bec de la Louisiane*, BUFF. *Pl. Enl.* 153, fig. 2, Male.—*Moineau à poitrine et ventre pourpres*, SONN. *Buff.* XLVIII., p. 240.—*Red-breasted Grosbeak*, PENN. *Arct. Zool.* Sp. 212. LATH. *Syn.* III., p. 126, Sp. 24.—*Red-breasted Finch*, PENN. *Arct. Zool.* Sp. 275. LATH. *Syn.* III., p. 272, Sp. 30, adult Male.—*Dusky Grosbeak*, PENN. *Arct. Zool.* Sp. 216. LATH. *Syn.* III., p. 127, Sp. 26, Female.—*Spotted Grosbeak*, PENN. *Arct. Zool.* Sp. 213. LATH. *Syn.* III., p. 126, Sp. 25, young.

THOUGH several figures have been published of the very showy male Rose-breasted Grosbeak, the humble plumage of the female and young has never been represented. It would, however, have better served the purposes of science if the preference had been given to the latter, though less calculated to attract the eye, inasmuch as striking colors are far less liable to be misunderstood or confounded in the description of species, than dull and blended tints. It will be seen by the synonymy, that nominal species have in fact been introduced into the systems. But if it be less extraordinary that the female and young should have been formed into species, it is certainly unaccountable that the male itself should have been twice described in the same works, once as a Finch, and once as a Grosbeak. This oversight originated with Pennant, and later compilers have faithfully copied it, though so easy to rectify.

The female Rose-breasted Grosbeak is eight inches long, and twelve and a half inches in extent. The bill has not the form either of the typical Grosbeaks, or of the Bullfinches, but is intermediate between them, though more compressed than either: it is three-quarters of an inch long, and much higher than broad; instead of being pure white, as that of the male, it is dusky horn-color above, and whitish beneath and on the margins; the irides are hazel brown; the crown is of a blackish brown, each feather being skirted with lighter olive brown, and faintly spotted with white on the centre; from the nostrils a broad band passes over the eye, margining the crown to the neck; a brown streak passes through the eye, and the inferior orbit is white: more of the brown arises from the angle of the mouth, spreading on the auriculars; on the upper part of the neck above, the feathers are whitish edged with pale flaxen, and with a broad, oblong, medial, blackish brown spot at tip; on the remaining part of the neck and interscapulars this blackish spot is wider, so that the feathers are properly of that color, broadly edged with pale flaxen; the back and rump, and the upper tail-coverts are of a lighter brown, with but a few merely indicated and lighter spots; the whole inferior surface of the bird is white, but not very pure; the sides of the throat are dotted with dark brown, the dots occupying the tips of the feathers; the breast and flanks are somewhat tinged with flaxen (more dingy on the latter), and each feather being blackish along the middle at tip, those parts appear streaked with that color; the middle

of the throat, the belly, and under tail-coverts are unspotted; the base of the plumage is everywhere plumbeous; the wings are rounded, less than four inches long, entirely dusky brown, somewhat darker on the spurious wing, all the feathers, both quills and coverts, being lighter on their edges; the exterior webs of the middle and larger wing-coverts are whitish at tip, constituting two white bands across the wings; the primaries are whitish at the origin beneath the spurious wing; the secondaries are inconspicuously whitish externally at tip, that nearest the body having a very conspicuous whitish spot: the lower wing-coverts are of a bright buff, and as they are red in the male, afford an excellent essential character for the species: the tail is three inches long, nearly even, and of a paler dusky brown; the two outer feathers are slightly edged internally with whitish, but without the least trace of the large spot so conspicuous in the male, and which is always more or less apparent in the young of that sex: the feet are dusky, the tarsus measuring seven-eighths of an inch.

The young male is at first very similar to the female, and is, even in extreme youth, paler and somewhat more spotted; but a little of the beautiful rose color, of which the mother is quite destitute, soon begins to make its appearance, principally in small dots on the throat: this color spreads gradually, and the wings and tail, and soon after the head, blacken, of course presenting as they advance in age a great variety of combinations.

For the description of the beautiful adult male, we shall refer to Wilson, whose description is good, and the figure accurate, but not having stated any particulars about the habits of the species, we shall subjoin the little that is known of them. Though long since recorded to be an inhabitant of Louisiana, whence it was first received in Europe, recent observations, and the opinion of Wilson, had rendered this doubtful, and it was believed to be altogether an Arctic bird, averse to the warm climate of the Southern States, and hardly ever appearing even in the more temperate. Its recent discovery in Mexico is therefore a very interesting and no less remarkable fact, and we may safely conclude that this bird migrates extensively according to season, spending the summer in the north, or in the mountains, and breeding there; and in winter retiring southward, or descending into the plains; being however by no means numerous in any known district, or at any season, though perhaps more frequent on the borders of Lake Ontario. Its favorite abode is large forests, where it affects the densest and most gloomy retreats. The nest is placed among the thick foliage of trees, and is constructed of twigs outside, and lined with fine grasses within; the female lays four or five white eggs, spotted with brown. This may also be called an "Evening Grosbeak," for it also sings during the solemn stillness of night, uttering a clear, mellow, and harmonious note.

We have placed this species in our subgenus *Coccothraustes*. It is probably because he labored under the mistake that all the Grosbeaks removed from *Loxia* had been placed in *Pyrrhula* by Temminck, that Mr. Sabine has made it a Bullfinch: and in truth the bill very much resembles those of that genus, so that the species is intermediate between the two. Mr. Swainson places it, together with the Blue Grosbeak, *Fringilla* (*Coccothraustes*) *cærulea*, in a new genus which he calls *Guiraca*, but without as yet characterizing it. These species have, it is true, a bill somewhat different from that of the typical *Coccothraustes* (as may be seen by comparing this with the Evening Grosbeak), being much less thick and turgid, and higher than broad; the upper mandible being larger than the lower, and covering its margins entirely, compressed on the sides, making the ridge very distinct (not rounded above), and curved from the base, but at tip especially: the margins of both are angular. The representation of the bill in Wilson's plate of the male is remarkably exact.

LOXIA LEUCOPTERA.

FEMALE WHITE-WINGED CROSSBILL.*

[Plate XV. Fig. 3.]

Loxia leucoptera, GMEI. *Syst.* I., p. 844, Sp. 12. VIEILL. *Gal. Ois.* I., p. 56, Pl. 52, young Male. NOB. *Obs.* Sp. 84. Id. *Cat. and Syn. Birds U. S.* Sp. 195.—*Loxia falcistrostra*, LATH. *Ind.* p. 371, Sp. 2.—*Le Bec-croisé leucoptère*, SONN. *Buff.* XLVII., p. 65. VIEILL. *Nouv. Dict. Hist. Nat.* 2d ed. III., p. 339.—*White-winged Crossbill*, LATH. *Syn.* III., p. 108, Sp. 2. Id. *Suppl.* p. 148. DIXON, *Voy.* t. 20, p. 358, Female. PENN. *Arct. Zool.* II., Sp. 208.

THE White-winged Crossbill, first made known by Latham in his celebrated Synopsis, was subsequently introduced on his authority into all the huge compilations of the last century. Wilson gave us the first figure of it, which is that of the male, and promised a representation of the female, together with "such additional facts relative to its manners as he might be able to ascertain." It is to fulfil Wilson's engagement that we now give a correct figure of the other sex of this species, which we are also enabled to describe minutely in all its different states of plumage. This has never before been done, though Vieillot, since Wilson's time has compiled some account of its habits, described the female, and recently published a bad enough figure of the male in his *Galerie des Oiseaux*.

* See Wilson's *American Ornithology*, II. p. 61, Pl. 31, for the young Male
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The English name was bestowed by its discoverer, the scientific was imposed on it by the compiler Gmelin, who like the Daw in the fable, though with much better success, appropriated to himself the borrowed plumes of others, making Latham's new species his own by being the first to give them scientific names, which the discoverer himself was afterwards obliged to adopt in his *Index Ornithologicus*. In the present instance however he took the liberty of altering Gmelin's name, most probably with the view of giving one analogous to that of *Loxia curvirostra*, and indicative of the remarkable form of the bill. That character having since been employed as generic, the propriety of Latham's change has ceased to exist, and in fact the advantage is altogether on the side of Gmelin. We have therefore respected the right of priority, even in the case of an usurper.

The female White-winged Crossbill is five inches and three-quarters long, and nearly nine in extent; the bill is more than five-eighths long, of a dark horn color paler on the edges; as is the case in the whole genus, it is very much compressed throughout, but especially at the point, where the edges almost unite into one: both mandibles are curved (the lower one upwards) from the base, the ends crossing each other; the upper has its ridge distinct, and usually crosses to the left in both sexes, and not, as Wilson appears to intimate, generally in one sex only; the lower mandible is considerably shorter; the tongue is short, cartilaginous, and entire: the irides are of a very dark hazel; the small setaceous feathers covering the nostrils, which is one of the characteristics of the genus, are whitish gray; the bottom of the plumage is everywhere slate color; the head, and all the upper parts down to the rump, are of a grayish green strongly tinged with olive, each feather being marked with black in the centre, giving the plumage a streaked appearance, as represented in the plate; the rump is pure pale lemon yellow, the upper tail-coverts are blackish margined with whitish olive; the front, and a broad line over and round the eye and bill, are slightly distinguished from the general color of the head by the want of olivaceous, being grayish white, and as the feathers are very small, appear minutely dotted with black: the curved blackish spot, more apparent in the colors of the male, is slightly indicated on the sides of the head; the sides of the head and neck, the throat, and the breast, are of a grayish white, also streaked with blackish, and somewhat tinged with yellowish on the sides of the breast; the flanks become of a dingy yellowish gray, and have large dull blackish blotches; the belly and vent are of a much purer whitish, and the streaks are on that part long, narrow, and well defined; the under tail-coverts are blackish, with broad white margins, the wings are three inches and a half long, reaching when closed to the last of the tail-coverts; the first three primaries are subequal and longest, the fourth being but little

shorter, and much longer than the succeeding; the general color of the wing is black, the smaller coverts each margined with olive; the middle and longer coverts broadly tipped with white, forming a double band across the wings, so conspicuous as to afford the most obvious distinguishing character of the species; all the quills are slightly edged with paler, the tertials being also tipped with white; the under wing-coverts are of a dark silvery, as well as the whole inferior surface of the wing; the tail measures two and a half inches, being as usual composed of twelve feathers; it is black, and deeply emarginate, the feathers acute, and slightly edged with paler: the feet are short, rather robust, and blackish, the tarsus five-eighths of an inch in length, somewhat sharp behind, with its covering entire before; the toes are divided to the base, very short, the middle one considerably the longest, but much less than half an inch long, the lateral one subequal (all these being remarkable characters of the genus), the hind toe long, and stoutest; the nails strong, much curved, and sharp, the hind one the longest, and twice as large as the lateral.

The male described by Latham, Wilson and Vicillot as in full plumage, but which, with Temminck, we have good reasons for believing to be between one and two years old, differs from the female in being a trifle larger, and of a crimson red where she is olive gray: the base of the plumage is also considerably darker, approaching to black on the head, which color predominates in several parts of the plumage, round the eye, on the front, in the broad line curving and widening from the eye each side of the neck, and appearing distinctly on the back, where it generally forms a kind of band descending from the base of the wing: the rump is of a beautiful rose-red; the black of the wings and tail is deeper; the white pure, and more extended; the lining of the quills, and especially of the tail-feathers, more conspicuous; the belly is of a pure whitish, much less streaked, &c.

The bird which from analogy we take for the adult male, though we have no positive evidence for deciding whether it is in the passage to, or from, the preceding, differs only in having a light buff orange tinge where the other has crimson: it agrees with it in all its minute markings, the patch on the sides of the head is better defined, and the wings and tail are of a still deeper black, the edges of the quills and tail-feathers being very conspicuous, and almost pure white. All these facts conspire to favor our opinion. In this state the bird is rare, as might be expected, and has not before been noticed by any naturalist: we have not represented it, only that we might not multiply figures of the same species.

The very young male before assuming the red, at the age of one year, exactly resembles the female; being only more grayish, and less

tinged with olive, and having the rump greenish yellow, instead of yellow.

The four above-described states of plumage are selected from a number of specimens shot on the same day and out of the same flock. The changes of these birds must still rank among the unexplained phenomena of Natural History. An illustration might be attempted by supposing a double moult to take place in the birds of this genus, but besides that we ought to be cautious in admitting an hypothesis like this not founded on observation, it would be entirely untenable in the present instance, from the fact that all the variations of plumage are found at the same period of the year, thus proving that age, and of course sex, but not season, produce these changes; and we must provisionally admit, that contrary to what takes place in all other birds, these (the Crossbills) together with the Pine-Bullfinches, lose, instead of acquiring brilliancy of colors as they advance in age.

This species inhabits during summer the remotest regions of North America, and it is therefore extraordinary that it should not have been found in the analogous climates of the old continent. In this, its range is widely extended, as we can trace it from Labrador, westward to Fort de la Fourche in latitude 56°, the borders of Peace river, and Montague Island on the north-west coast, where it was found by Dixon. Round Hudson's Bay it is common and well known, probably extending far to the north-west, as Mackenzie appears to allude to it when speaking of the only land bird found in the desolate regions he was exploring, which enlivened with its agreeable notes the deep and silent forests of those frozen tracts. It is common on the borders of Lake Ontario, and descends in autumn and winter into Canada and the Northern and Middle States. Its migrations however are very irregular. During four years it had escaped my careful researches, and now while writing (in the first week of November, 1827) they are so abundant, that I am able to shoot every day great numbers out of flocks that are continually alighting in a copse of Jersey scrub-pine (*Pinus inops*) even opposite my window. It is proper to mention, that owing perhaps to the inclemency of the season, which has so far been distinguished by rains, early frost, and violent gales of wind, there have been extraordinary flights of winter birds. Many flocks of the Purple Finch are seen in all directions. The American Siskin (*Fringilla pinus*, Wils.), of which I never saw a living specimen before, covers all the neighboring pines and its favorite thistles with its innumerable hosts. The Snow-Bunting (*Emberiza nivalis*) has also made its appearance in New Jersey, though in small parties, after an absence of several years.

The White-winged Crossbills generally go to Hudson's Bay on their return from the south, and breed there, none remaining during summer even in the most northern parts of the United States, where they are

more properly transient irregular visitors, than even winter residents. They are seldom observed elsewhere than in pine swamps and forests, feeding almost exclusively on the seeds of these trees, together with a few berries. All the specimens I obtained had their crops filled to excess entirely with the small seeds of *Pinus inops*. They kept in flocks of from twenty to fifty, when alarmed suddenly taking wing all at once, and after a little manœuvring in the air, generally alighting again nearly on the same pines whence they had set out, or adorning the naked branches of some distant, high, and insulated tree. In the countries where they pass the summer, they build their nest on the limb of a pine, towards the centre; it is composed of grasses and earth, and lined internally with feathers. The female lays five eggs, which are white, spotted with yellowish. The young leave their nest in June, and are soon able to join the parents in their autumnal migration.

In the northern countries, where these birds are very numerous, when a deep snow has covered the ground they appear to lose all sense of danger, and by spreading some favorite food, may be knocked down with sticks or even caught by hand while busily engaged in feeding. Their manners are in other respects very similar to those of the common Crossbill, as described by Wilson, and they are said also to partake of the fondness for saline substances so remarkable in that species.

FRINGILLA CYANEA.

FEMALE INDIGO FINCH.*

[Plate XV. Fig. 4.]

Tanagra cyanea, LINN. *Syst.* I., p. 315, Sp. 6, adult Male in full plumage.—*Emberiza cyanea*, GMEL. *Syst.* I., p. 876, Sp. 54. LATH. *Ind.* p. 415, Sp. 60.—*Emberiza cyanella*, SPARM. *Mus. Carls.* II., Pl. 42, 43. GMEL. *Syst.* I., p. 887, Sp. 74.—*Emberiza cœrulea*, GMEL. *Syst.* I., p. 876. LATH. *Ind.* p. 415, Sp. 59, Male in moult.—*Tanagra cœrulea*? GMEL. *Syst.* I., p. 891, Sp. 27. LATH. *Ind.* p. 427, Sp. 27, adult Male.—*Tanagra carolinensis cœrulea*, BRISS. *Av.* III., p. 13, Sp. 6, adult Male in full dress.—*Emberiza canadensis cœrulea*, BRISS. *Av.* III., p. 298, Sp. 12, Pl. 14, fig. 2, Male moulting.—*Passerina cyanea*, VIEILL. *Nouv. Dict. Hist. Nat.* —*Fringilla cyanea*, NOB. *Obs.* Sp. 112. *Id. Cat. and Synop. Birds U. S.* Sp. 164. —*Linaria cyanea*, BART. *Trav.* p. 296.—*Linaria cœrulea*, the Blue Linnet, CATESBY. *Car.* I., p. 45, Pl. 45.—*Le ministre*, BUFF. *Ois.* IV., p. 86.—*L'azuroux*, BUFF. *Ois.* IV., p. 369, Male moulting.—*Passe-bleu*? BUFF. *Ois.* III., p. 495, adult Male in full plumage.—*Moineau bleu de Cayenne*? BUFF. *Pl. Enl.* 203, fig. 2, adult Male in full dress.—*Blue Linnet*, EDW. *Av.* IV., p. 132, Pl. 273, lower figure.—*Indigo Bunting*, PENN. *Arct. Zool.* II., Sp. 235. LATH. *Syn.* IV., p. 205, Sp. 53.—*Blue Bunting*, PENN. *Arct. Zool.* II., Sp. 234. LATH. *Syn.* III., p. 205, Sp. 52, Male moulting.—*Blue Tanager*? LATH. *Syn.* III., p. 234, Sp. 28.

* See WILSON'S *American Ornithology*, II., p. 124, Pl. 6, fig. 5, for the Male.

THE remarkable disparity existing between the plumage of the different sexes of the common Indigo-bird, renders it almost indispensably requisite that the female, unaccountably neglected by Wilson, as he generally granted this distinction in similar, and often in less important cases, should be figured in this work. Hardly any North American bird more absolutely stands in need of being thus illustrated than the beautiful Finch which is now the subject of our consideration. It could scarcely be expected that the student should easily recognise the brilliant Indigo-bird of Wilson's first volume, in the humble garb in which it is represented in the annexed plate. But however simple in its appearance, the plumage of the female is far more interesting and important than that of the male, as it belongs equally to the young, and to the adult male after the autumnal moult, and previous to the change which ensues in the spring; a large proportion of the life of the bird.

The importance of a knowledge of these changes will also be duly estimated on recurring to the copious synonymy at the head of our article, by which it will be seen, that several nominal species have been made by naturalists who chanced to describe this bird during its transitions from one state to another. Errors of this kind too frequently disfigure the fair pages of zoology, owing to the ridiculous ambition of those pseudo-naturalists, who without taking the trouble to make investigations, for which indeed they are perhaps incompetent, glory in proclaiming a new species established on a single individual, and merely on account of a spot, or some such trifling particular! The leading systematists who have enlarged the boundaries of our science have too readily admitted such species, partly compelled to it perhaps by the deficiency of settled principles. But the more extensive and accurate knowledge which ornithologists have acquired within a few years relative to the changes that birds undergo, will render them more cautious, in proportion as the scientific world will be less disposed to excuse them for errors arising from this source. Linné may be profitably resorted to as a model of accuracy in this respect, his profound sagacity leading him in many instances to reject species which had received the sanction even of the experienced Brisson. Unfortunately, Gmelin, who pursued a practice directly the opposite, and compiled with a careless and indiscriminating hand, has been the oracle of zoologists for twenty years. The thirteenth edition of the *Systema Naturæ* undoubtedly retarded the advancement of knowledge instead of promoting it, and if Latham had erected his ornithological edifice on the chaste and durable Linnean basis, the superstructure would have been far more elegant. But he first misled Gmelin, and afterwards suffered himself to be misled by him, and was therefore necessarily betrayed into numerous errors, although he at the same time perceived and corrected many others of his predecessor. We shall not enumerate the nominal species authorized by

their works in relation to the present bird, since they may be ascertained by consulting our list of synonymes. On comparing this list with that furnished by Wilson, it will be seen that the latter is very incomplete. Indeed, as regards synonymy, Wilson's work is not a little deficient; notwithstanding which however it will be perpetuated as a monument of original and faithful observation of nature, when piles of pedantic compilations shall be forgotten.

We refer our readers entirely to Wilson for the history of this very social little bird, only reserving to ourselves the task of assigning its true place in the system. As we have already mentioned in our "Observations," he was the first who placed it in the genus *Fringilla* (to which it properly belongs), after it had been transferred from *Tanagra* to *Emberiza* by former writers, some of whom had even described it under both, in one and the same work. But although Wilson referred this bird to its proper genus, yet he unaccountably permitted its closely allied species the *Fringilla ciris*, to retain its station in *Emberiza*, being under the erroneous impression that a large bill was characteristic of that genus. This mistake however is excusable, when we consider that almost all the North American birds which he found placed in it, through the negligence or ignorance of his predecessors, are in fact distinguished by large bills.

The transfer of this species to the genus *Fringilla*, renders a change necessary in the name of *Loxia cyanea* of Linné, an African bird, now a *Fringilla* of the subgenus *Coccothraustes*. The American bird belongs to *Spiza*, and together with the *Fringilla ciris*, and the beautiful *Fringilla amana*, it may form a peculiar group, allied to *Fringilla*, *Emberiza*, and *Tanagra*, but manifestly nearest the former.

The adult male in full plumage having been described by Wilson, may be omitted here. The female measures four inches and three-quarters in length, and nearly seven in extent. The bill is small, compressed, and less than half an inch long, is blackish above and pale horn color beneath; the irides are dark brown; above she is uniformly of a somewhat glossy drab; between the bill and eyes, and on the cheeks, throat, and all the inferior parts, of a reddish clay color, much paler on the belly, dingy on the breast, and strongly inclining to drab on the flanks, blending into the color of the back, the shafts of the feathers being darker, giving somewhat of a streaked appearance: the whole base of the plumage is lead color; the wings and tail are of a darker and less glossy brown, each feather being edged with lighter, more extended on the secondaries, and especially the wing-coverts; the wings are two inches and a half long, not reaching when folded beyond the tail-coverts; the first primary is subequal to the fourth, the second and third being longest; the three outer besides the first, are greatly attenuated on the outer web half an inch from the point, where it is extremely nar

row; the tail is two inches in length, and but slightly emarginated; the feet are dusky, the tarsus measuring three-quarters of an inch.

The male, after his autumnal moult, exhibits pretty much the same dress, except being more or less tinged with bluish. We shall here observe, that we do not believe that the individual kept by Wilson in a cage through the winter, in which the gay plumage did not return for more than two months, formed an exception to the general law, as he supposed. We have no doubt that this circumstance is characteristic of the species in its wild state.

The young strongly resemble the female; the drab color is however much less pure and glossy, being somewhat intermixed with dusky olive, owing to the centre of the feathers being of the latter hue. Consequently, during the progress from youth to adolescence, and even during the two periodical changes, the plumage of this bird is more or less intermixed with drab, blue, and white, according to the stage of the moulting process, some being beautifully and regularly spotted with large masses of those colors, symmetrically disposed. In one of these males, but little advanced in its changes, we readily recognise the *Emberiza cærulea* of authors, *Azuroux* of Buffon, &c.; and in another, which has made farther progress towards the perfect state, the shoulders only retaining the ferruginous tinge, we can trace the *Emberiza cyanella* of Sparmann.

CINCLUS PALLASII.

PALLAS' DIPPER.

[Plate XVI. Fig. 1.]

Cinclus Pallastii, TEMM. *Man. Orn.* I., p. 177. *NOB. Suppl. Gen. Am. Birds*, Sp. 94 bis, in *Zool. Journ. London*, IV., p. 4. ID, in *Ann. Lyc. New York*, II., p. 438.—*Cinclus mexicanus*, SWAINSON, *Syn. Birds of Mexico*, Sp. 27, in *Phil. Mag. New Series*, I., p. 368.

THE recent discovery of the genus *Cinclus* in America, furnishes an interesting fact in the history of the geographical distribution of birds, this genus being one of the twenty-five European, enumerated in our "Observations" as not known to inhabit this continent. A specimen from the northern countries, communicated by Mr. Leadbeater, first enabled us to introduce it into the American Fauna; and almost simultaneously, Mr. Swainson, in his *Synopsis of the Birds discovered in Mexico* by Mr. Bullock, announced it as occurring in that country, but in no other part, as he thought, of America. Judging from his short description (and the species does not admit of a long one), we have no hesitation in affirming that both Mr. Swainson's, and that described by

Temminck, and supposed to have been found by Pallas in the Crimea, are identical with ours; notwithstanding the localities are so widely distant from each other, as well as from that whence ours comes, which however it will be perceived, is intermediate between them.

It has been frequently remarked by us, and the fact is now well established, that many birds of Mexico, entirely unknown in the Atlantic territories of the United States, are met with in the interior, and especially along the range of the Rocky Mountains, at considerably higher latitudes. But it was not to be expected that a Mexican species should extend so far north as the Athabasca Lake, where our specimen was procured. The circumstance is however the less surprising in birds of this genus, as their peculiar habits will only allow them to live in certain districts. The case is similar with the Dipper of the old continent, which, though widely dispersed, is only seen in mountainous and rocky countries. Though we do not see any improbability in the American species inhabiting the eastern Asiatic shore, we prefer believing that the specimens on which Temminck established the species, and whose supposed native place was the Crimea, were in fact American. The two species are so much alike in size, shape, and even color, as to defy the attempts of the most determined system-maker to separate them into different groups.

The single species of which the genus *Cinclus* had hitherto consisted, was placed in *Sturnus* by Linné, and by Scopoli, with much more propriety, in *Motacilla*. Latham referred it to *Turdus*. Brisson, mistaking for affinity the strong and curious analogy which it bears to the waders, considered it as belonging to the genus *Tringa* (Sandpipers). Bechstein, Illiger, Cuvier, and all the best modern authorities, have regarded it as the type of a natural genus, for which they have unanimously retained the name of *Cinclus*, given by Bechstein, Vieillot alone dissenting, and calling it *Hydrobata*. This highly characteristic name, notwithstanding its close resemblance in sound and derivation to one already employed by Illiger as the name of a family, appears to be a great favorite with recent ornithologists, as they have applied it successively to several different genera, and Temminck has lately attempted to impose it on the genus of Ducks which I had named *Fuligula*. In my system, the genus *Cinclus* must take its place in the family *Canori*, between the genera *Turdus* and *Myiothera*.

The Dippers, or Water-Ouzels, are well distinguished by their peculiar shaped bill, which is compressed-subulate, slightly bent upwards, notched, and with its edges bent in, and finely denticulated from the middle; but more especially by their long, stout, perfectly smooth tarsi, with the articulation exposed, a character which is proper to the order of waders, of which they have also the habits, nay, are still more aquatic than any of them. Their plumage also being thick, compact, and oily,

is impermeable to water, as much so as that of the most decidedly aquatic web-footed birds, for when dipped into it, that fluid runs and drops from the surface. Their head is flat, with the forehead low and narrow; the neck is stout; the body short and compact; the nostrils basal, concave, longitudinal, half covered by a membrane; tongue cartilaginous and bifid at tip. Their wings are short and rounded, furnished with a very short spurious feather, and having the third and fourth primaries longest; the tail short, even, and composed of wide feathers; the nails large and robust; the lateral toes are subequal, the outer united at base to the middle one, the hind toe being short and robust. The female is similar to the male in color, and the young only more tinged with reddish. They moult but once in the year.

These wild and solitary birds are only met with singly or in pairs, in the neighborhood of clear and swift-running mountain streams, whose bed is covered with pebbles, and strewn with stones and fragments of rock. They are remarkably shy and cautious, never alight on branches, but keep always on the border of the stream, perched, in an attitude peculiar to themselves, on some stone or rock projecting over the water, attentively watching for their prey. Thence they repeatedly plunge to the bottom, and remain long submerged, searching for fry, crustacea, and the other small aquatic animals that constitute their food. They are also very destructive to mosquitoes, and other dipterous insects and their aquatic larvæ, devouring them beneath the surface. They never avoid water, nor hesitate in the least to enter it, and even precipitate themselves without danger amidst the falls and eddies of cataracts. Their habits are in fact so decidedly aquatic, that water may be called their proper element, although systematically they belong to the true land birds. The web-footed tribes swim and dive; the long-legged birds wade as long as the water does not touch their feathers; the Dippers alone possess the faculty of walking at ease on the bottom, as others do on dry land, crossing in this manner from one shore to the other under water. They may be often seen gradually advancing from the shallows, penetrating deeper and deeper, and, careless of losing their depth, walking with great facility on the gravel against the current. As soon as the water is deep enough for them to plunge, their wings are opened, dropped, and agitated somewhat convulsively, and with the head stretched horizontally, as if flying, they descend to the bottom, where they course up and down in search of food. As long as the eye can follow them, they appear, while in the water, covered with bubbles of air, rapidly emanating from their bodies, as is observed in some coleopterous insects.

The Dippers run very fast: their flight is direct, and swift as an arrow, just skimming the surface, precisely in the manner of the Kingfisher. They often plunge under at once without alighting, reappearing

at a distance. When on their favorite rocks, these birds are constantly dipping in the water, at the same time flirting their erected tail. While on the wing they utter a feeble cry, their voice being weak and shrill, but somewhat varied, and they sing from their perch, not loud, but sweetly, even in the depth of winter. Early in the spring they begin to utter clear and distinct notes, and are among the first to cheer the lonely and romantic haunts which they frequent, with their simple melody.

These birds, like others that live about the water, pair early, and have two broods in the season. The young can leave their nest before being full-fledged, and at the approach of danger, drop from the height where it is generally placed, into the water. In order that this may be done, they build in some place overhanging the water, the ledge of a rock, or the steep bank of a rivulet; or sometimes, in inhabited countries, take advantage of mills, bridges, or other works of man. The nest is large, composed of moss, and vaulted above; the eggs are from four to six, and of a milky white. Though very carefully hid, it may be easily discovered by the incessant chirping of the young.

Having seen nothing but the dried skin of the American Dipper, and being utterly unacquainted with its habits, we have been describing as common to the genus those of the European species, which are well known, and which we have stopped to watch and admire among the precipices of the Alps and Apennines, where it struggles with the steepest and most noisy cascades, and the wildest torrents. The exceedingly great similarity of form in the two species strongly warrants the belief of equal similarity in habits. The more uniform and cinereous hue of the American, the want of reddish, but especially the striking absence of the white on the throat and breast, are the sole, but sufficient marks of difference between the two species.

Pallas' Dipper is longer than the common species, measuring eight and a half inches. The bill is perfectly similar, and three-quarters of an inch long, blackish, paler beneath and on the edges. The whole bird without any exception is of a dark grayish slate-color, with the base of the plumage somewhat lighter; at the superior orbit is a slight indication of whitish. The uniform general color is somewhat darker on the head, and a shade lighter beneath. The wings are three and a half inches long, as in the genus; the coverts and tertials slightly tipped with dingy whitish; the primaries incline somewhat to brown. The tail measures one inch and a half, and is perfectly even. The feet are of a flesh-color, and the nails dusky white; the tarsus is precisely one inch long.

If we could rely on Brehm, four species of this genus exist, which are all found in the old continent. Two are new ones proposed by himself, under the names of *Cinclus septentrionalis* and *Cinclus melanogaster*.

ter. The latter, according to him, is a Siberian species, appearing occasionally on the northern coast of European Russia in winter, and is perhaps a genuine species, easily distinguished from the *Cinclus aquaticus* by having, but ten feathers in the tail, whilst all others have twelve, in addition to its smaller size, darker color, and dingy throat; but the former can hardly be regarded even as a northern variety produced by climate. Mr. Brehm is probably quite correct in observing that both his new species are perfectly similar to the old one.

BOMBYCILLA GARRULA.

BOHEMIAN WAX-WING.

[Plate XVI. Fig. 2.]

Ampelis garrulus, LINN. *Syst.* I., p. 297, Sp. 1. GMEL. *Syst.* I., p. 838, Sp. 1. LATH. *Ind.* p. 363, Sp. 1. MULLER, p. 30. KRAM. *El.* p. 363, Sp. 1. BOROWSK. *Nat.* III., p. 171, Sp. 68. MEYER & WOLF, *Tasch. Deutsch.* I., p. 204.—*Lanius garrulus*, FAUN. SUCC. II., Sp. 82. SCOP. *Ann.* I., Sp. 20. BRUNN. Sp. 25, 26.—*Bombyciphora poliopectus*, MEYER, *Vog. Liv. and Esthl.* p. 104.—*Bombycivora garrula*, TEMM. *Man. Orn.* I., p. 124. SELBY, *Ill. Br. Orn.* I., p. 87, Pl. 34.—*Bombyciphora garrula*, BREHM, *Lehr. Eur. Vog.* II., p. 980.—*Bombycilla garrula*, VIEILL. *Nouv. Dict. Nob. Suppl. Syn. Am. Birds in Zool. Journ. London*, IV., p. 3, Sp. 65 bis. RANZ. *Elem. Orn.* IV., p. 136, Sp. 1.—*Bombycilla bohemica*, STEPH. *Contin. Shaw's Zool.* x., p. 421.—*Garrulus bohemicus*, GESN. *Av.* p. 703. ALDR. *Orn.* I., p. 796, Pl. 798. MUS. p. 674, Pl. 675. RAII *Syn.* p. 85, A. WILL. *Orn.* p. 90, Pl. 20. ALB. *Av.* II., p. 25, Pl. 26.—*Turdus cristatus*, WIRSING, *Vog.* Pl. 4. FRISCH, Pl. 32, fig. 1, Male. KLEIN, *Stemm.* p. 11, Pl. 13, fig. 5, a—c.—*Turdus Bombycilla bohemica*, BRISS. *Orn.* II., p. 333, Sp. 63. ID. 8vo. I., p. 250.—*Garrulo di Boemia*, ST. degli Ucc. II., Pl. 160.—*Le Jaseur*, BUFF. *Ois.* III., p. 429, Pl. 26. LE VAILL. *Ois. Para.* I., p. 137, Pl. 49.—*Le Jaseur de Bohême*, BUFF. *Pl. Enl.* 261. CUV. *Règne Anim.* I., p. 349.—*Europäischer Seidenschwanz*, BECHST. *Nat. Deutschl.* III., p. 410, Pl. 34, fig. 1.—*Rothlichgraver Seidenschwanz*, NAUM. *Vog.* Pl. 32, fig. 66. MEYER & WOLF, *Ois. d'Allem. Livr.* 22, Pl. 6, fig. 1, Male, fig. 2, Female.—*Silk-tail*, RAY, *Syn.* p. 85, A. *Phil. Trans.* xv., p. 1165, Pl. 1, fig. 9.—*Bohemian Chatterer*, PENN. *Brit. Zool.* Sp. 112, Pl. 48. ID. *fat.* 7, Pl. 1, C. LATH. *Syn.* III., p. 91, Sp. 1. UBERSSETZ, III., p. 86, Sp. 1. BELL, *Trav.* I., p. 98. *Flor. Scot.* I., Sp. 92. MONT. *Orn. Dict.* LEWIN, *Brit. Birds*, I, Pl. 2. BEWICK, *Br. Birds*. DONOVAN, *Br. Birds*, I., Pl. 11. PULT. *Cat. Dorsetsh.* p. 11.

IF the absurd theory advanced by Buffon, that European animals degenerate, or become more or less changed in other climates, needed in our time any additional refutation, the discovery of this bird in the north-western territory near the Rocky Mountains, would afford it. By appearing in its full size and perfection, exactly similar to the European individuals of its species, it would vindicate its smaller relation, the com-

mon and familiar Cedar-bird, from the reproach of degeneracy. But with the more enlightened opinions that now prevail, its occurrence in that unexplored portion of the globe is important chiefly as tending to solve the problem of the place of abode of this mysterious wanderer; especially as, by a singular coincidence, whilst we were proclaiming this species as American it was received by Temminck from Japan, together with a new species, the third known of the genus, which he has caused to be figured and distinguished by the appropriate name of *Bombycilla phœnicoptera* (Boië). Besides the red band across the wing, whence its name is derived, the length of its crest adorned with black feathers, and the uniform absence in all states, of the corneous appendages of the wings, this new species, resembling more in size and shape the Carolina Wax-wing (Cedar-bird) than the present, is eminently distinguished from both by wanting the small, closely set feathers covering the nostrils, hitherto assigned as one of the characters of the genus. This example evinces the insufficiency of that character, though Illiger considered it of such importance as to induce him to unite in his great genus *Corvus* (comprehending this as well as several other distinct groups), all the species possessing it. It shows especially how erroneous it is to form two separate families for the allied genera with covered or naked nostrils. In fact, the genus as it now stands, is, not the less for this aberration, an exceedingly natural one, though the two species that are now known to inhabit America are still more allied to each other than either of them to the Japanese, the present (Bohemian) differing chiefly by its larger size, mahogany-brown tail-coverts, and cinereous belly, the first being white, and the second yellowish in the Cedar-bird, which also wants the yellow and white markings on the wing. Of the three species now comprehended in the genus, one is peculiar to America, a second to eastern Asia, and the present common to all the Arctic world.

This small but natural group, at one time placed by Linné in the carnivorous genus *Lanius*, notwithstanding its exclusively frugivorous habits, was finally restored by him to *Ampelis*, in which he was followed by Latham. Brisson placed it in *Turdus*, and Illiger in *Corvus*. Ornithologists now concur in regarding it as a genus, disagreeing only as to the name, some calling it *Bombyciphora*, others *Bombycivora*, though they all appear to have lately united in favor of the more elegant, and prior termination of *Bombycilla*.

The Wax-wings, which we place in our family *Sericati*, having no other representative in Europe or North America, are easily recognised by their short, turgid bill, trigonal at base, somewhat compressed and curved at tip, where both mandibles are strongly notched; their short feet, and rather long, subacute wings. But their most curious trait consists in the small, flat, oblong appendages, resembling in color and substance red sealing-wax, found at the tips of the secondaries in the

adult. These appendages are merely the colored corneous prolongation of the shafts beyond the webs of the feathers. The new species from Japan is, as we have mentioned, at all times without them, as well as the young of the two others. The plumage of all is of a remarkably fine and silky texture, lying extremely close; and they are all largely and pointedly crested, the sexes hardly differing in this respect.

The Wax-wings live in numerous flocks, keeping by pairs only in the breeding season, and so social in their disposition, that as soon as the young are able to fly, they collect in large bands from the whole neighborhood. They perform extensive journeys, and are great and irregular wanderers. Far from being shy, they are simple and easy tamed, but generally soon die in confinement. Their food consists chiefly of juicy fruits, on which they fatten, but to the great detriment of the orchard, where they commit extensive ravages. When fruits are scarce, they seize upon insects, catching them dexterously in the same manner as their distant relatives the Flycatchers. No name could be more inappropriate for these birds than that of Chatterers, as there are few less noisy, and they might even be called mute, with much better reason. They build in trees, and lay twice in a year about five eggs.

Whence does the Bohemian Wax-wing come at the long and irregular periods of its migrations? Whither does it retire to pass its existence and give birth to its progeny? These are circumstances involved in darkness, and which it has not been given to any naturalist to ascertain. It has been stated, and with much appearance of probability, that these birds retire during summer within the Arctic circle; but the fact is otherwise, naturalists who have explored these regions asserting that they are rarer and more accidental there than in temperate climates. It seems probable that their chief place of abode is in the oriental parts of the old continent, and if we may hazard an opinion, we should not be surprised if the extensive and elevated table land of central Asia was found to be their principal rendezvous, whence like the Tartars in former times, they make their irregular excursions.

As we can only arrive at the truth in this matter, by observing facts, and collecting localities, we shall endeavor to do this with the greatest accuracy. In northern Russia and the extreme north of Norway they are seen in great numbers every winter, being observed there earlier than in temperate countries. In northern Asia and eastern Europe their migrations are tolerably regular, very numerous flocks generally pass through Scania in November, and are again seen on their return in the spring. But they appear only at very remote and irregular periods, and merely as occasional and rare visitants in western, southern, or even central and northern Europe, and then only in the coldest months of the most severe winters. Notwithstanding that they at times invade peculiar districts in vast numbers, so remarkable is the appearance of

these winged strangers then considered, that we find it placed upon record. However extraordinary it may seem to those who live in this enlightened age and country, that the unusual appearance of "Cedar-birds of a large kind" should strike terror into the souls of men, such notwithstanding was the effect in more ignorant times. They have been looked upon as the precursors of war, pestilence, and other public calamities. One of their irruptions was experienced in Italy in 1571, when flocks of hundreds were seen flying about in the north of that country in the month of December, and were easily caught. A similar visit had taken place in 1530 in February, marking the epoch when Charles V. caused himself to be crowned at Bologna. Aldrovandi, from whom we learn the above particulars, also informs us that large flocks of them appeared in 1551, when it was remarked that though they spread in numbers through the Modenese, the Plaisantine, and other parts of Italy, they carefully avoided entering the Ferrarese, as if to escape the dreadful earthquake that was felt soon after, causing the very birds to turn their flight. In 1552, Gesner informs us, they appeared along the Rhine near Mentz in Germany in such numbers as to obscure the sun. They have however of late years, in Italy and Germany, and in France especially at all times, been extremely rare, being seen only in small companies or singly, appearing as if they had strayed from their way. In England, the Bohemian Wax-wing has always been a rare visitant, coming only at long and uncertain intervals. In the winter of 1810 large flocks were dispersed through various parts of that kingdom; from which period we do not find it recorded by English writers till the month of February 1822, when a few came under Mr. Selby's inspection, and several were again observed during the severe storm in the winter of 1823. Upon the continent, its returns are subject to similar uncertainty. In M. Necker's very interesting memoir lately published on the birds of Geneva, we read, that from the beginning of this century only two considerable flights have been observed in that canton, one in January 1807, and the other in January 1814, when they were very numerous, and spent the winter there, all departing in March. In 1807 they were dispersed over a great portion of western Europe, and were seen near Edinburgh in the first days of that year.

What extent of country they inhabit or frequent in this continent, and whether numerous or not, we are unable to state. The specimen here figured was obtained, together with others, from the north-western range of the Rocky Mountains, and the species appears to spread widely, as we have been credibly informed by hunters that "Cedar-birds of a large kind" have been shot a little beyond the Mississippi, at a very great distance from the spot where ours was obtained. Thus does this species extend its range round the whole earth, from the coasts of Europe eastwardly to the Rocky Mountains in America; and we are

at a loss to conceive why it should never have been observed on this side of the Mississippi.

Very little is known of the peculiar habits of this elegant bird. It assembles in large flocks, and feeds on different kinds of juicy berries, or on insects, which during summer constitute their principal food. In common with many other birds, they are fond of the berries of the mountain-ash and *phytolacca*, are extremely greedy of grapes, and also, though in a less degree, of juniper and laurel-berries, apples, currants, figs and other fruits. They drink often, dipping in their bill repeatedly. Besides their social disposition, and general love of their species, these birds appear susceptible of individual attachment, as if they felt a particular sentiment of benevolence, even independent of reciprocal sexual attraction. Not only do the male and female caress and feed each other, but the same proofs of mutual kindness have been observed between individuals of the same sex. This amiable disposition, so agreeable for others, often becomes a serious disadvantage to its possessor. It always supposes more sensibility than energy, more confidence than penetration, more simplicity than prudence, and precipitates these as well as nobler victims, into the snares prepared for them by more artful and selfish beings. Hence they are stigmatized as stupid, and as they keep generally close together, many are easily killed at once by a single discharge of a gun. They always alight on trees, hopping awkwardly on the ground. Their flight is very rapid: when taking wing, they utter a note resembling the syllables *zi, zi, ri*, but are generally silent, notwithstanding the name that has been given them. They are however said to have a sweet and agreeable song in the time of breeding, though at others it is a mere whistle. The place of breeding, as we have intimated, is not known with any certainty, though they are said to build in high northern latitudes, preferring mountainous districts, and laying in the clefts of rocks, which however, judging from analogy, we cannot believe.

What can be the cause of their leaving their unknown abodes, of their wide migrations, and extraordinary irruptions, it is very difficult to determine. That they are not compelled to them by cold is well proved. Are they to be ascribed to necessity from excessive multiplication, as is the case with the small quadrupeds called Lemmings, and even with man himself in a savage state, or in over-populous countries? or shall we suppose that they are forced by local penury to seek elsewhere the food they cannot be supplied with at home? Much light may be thrown on the subject by carefully observing their habits and migrations in America.

The Bohemian Chatterer being so well known, we shall here only give a description of our best American specimen, which is a female shot on

the 20th March, 1825, on the Athabasca river, near the Rocky Mountains. The sexes hardly differ in plumage.

Length eight and a half inches; extent fifteen; bill three-quarters of an inch long, black, paler at the base of the under mandible; irides reddish, often quite red: nostrils entirely uncovered. From the base of the ridge of the bill, arises on each side a velvety black line, bordering the forehead, and spreading on the ophthalmic region, and surrounding almost the whole crown; throat also deep black. The anterior part of the head is bright bay, behind passing gradually into vinaceous drab; the feathers of the crown are elongated into a crest measuring nearly an inch a half; base of these feathers blackish, middle white, whole neck and hind head and breast cinereous drab, slightly tinged with vinaceous, and passing by degrees on the posterior parts above and beneath into pure cinereous, slightly tinged with bluish, which predominates on the rump and upper tail-coverts. The black of the throat is somewhat margined with bright bay, and is separated from the black of the eye by a slight obliterated white line. The cinereous of the belly and femorals is paler; the vent and lower tail-coverts are chestnut rufous, and the feathers very long. The wings measure four and a half inches in length, the second primary is somewhat longer than the first, the others decreasing in succession rapidly. The upper tail-coverts are cinereous drab, like the back, the lower whitish-gray, quills dusky black, much paler on their inner vane towards the base. The first is unspotted, the second has a slight mark of white on the outer web at tip. This mark increases in size successively on the following, becoming a longitudinal spot, much larger on the secondaries, four of which are furnished with bright red appendages. Each feather of the winglet is broadly white at tip, constituting a remarkable white spot on the wing, which appears to be on the primaries. No yellow whatever is observable on the wing. The tail is three inches long, black, broadly tipped with pale yellow for half an inch, dark bluish gray at base. Tarse, which is three-quarters of an inch long, and feet, black.

PYRRHULA ENUCLEATOR.
FEMALE PINE BULLFINCH.*

[Plate XVI. Fig. 3.]

Loxia enucleator, LINN. *Syst.* I., p. 299, Sp. 3. *Faun. Suec.* Sp. 223. SCHÆN, *Act. Holm.* 1757, p. 139. GMEL. *Syst.* I., p. 845, Sp. 3. BRUNN. Sp. 239. MULLER, Sp. 246. BOROWSK. *Nat.* III., p. 133, Sp. 3. LATH. *Ind.* I., p. 372, Sp. 5. RETZ, *Faun. Suec.* p. 234, Sp. 211. MEYER & WOLF, *Taschenr. Vog. Deutschl.* I., p. 142. —*Loxia flamenco*, MUS. CARLS. I. Pl. 17. GMEL. *Syst.* I., p. 864, accid. var. —*Loxia pyrrhula*, var. δ . LATH. *Ind.* I., p. 388, Sp. 56, accid. var. —*Coccothraustes canadensis*, BRISS. *Orn.* III., p. 250, Pl. 12, fig. 3. ID. 8vo. I., p. 378. —*Pyrrhula enucleator*, TEMM. *Man. Orn.* I., p. 383. SABINE, *Zool. App. to Frank. Exp.* p. 675. BREHM. *Lehr. Eur. Vog.* I., p. 169. RANZ. *Elem. Orn.* VI, p. 70, Sp. 2. SELBY, *Ill. Brit. Orn.* I., p. 256, Pl. 53, fig. 1, Male, fig. 2, Female. NOB. *Obs. Wils. Nom. Cat. and Syn. Birds U. S.* Sp. 193. —*Corythus enucleator*, CUV. *Règn. Anim.* I. p. 392. —*Strobilophaga enucleator*, VIEILL. *Gal. Ois.* I., Pl. 53, young Male. —*Fringilla enucleator*, MEYER, *Syst. Taschenb.* III., p. 250, Sp. 2. —*Cinfolotto snocciolatore*, RANZ. *loc. cit.* —*Dur-bee*, BUFF. *Ois.* III., p. 457. *Grosbee du Canada*, ID. *Pl. Enl.* 135, fig. 1, Male a year old. —*Haken Kernbeisser*, BECHST. *Nat. Deutsch.* III., p. 28. NAUM. *Vog. Nachtr.* Pl. 19, fig. 36, Male, fig. 37, Female. —*Der Fichten Kernbeisser*, MEYER & WOLF, *Vog. Deutschl.* 12, Pl. 5, fig. 1, young Male, fig. 2, old Female. —*Greatest Bullfinch*, EDWARDS, Pl. 123, young Male, Pl. 24, adult Female. —*Pine Grosbeak*, PENN. *Brit. Zool.* Sp. 114, Pl. 49, fig. 2. *Arct. Zool.* II., Sp. 209. ELLIS, *Narr.* II., p. 15. LEWIN, *Brit. Birds*, II., Pl. 68. LATH. *Syn.* II., p. 111, Sp. 5. ID. *Suppl.* p. 148. MONT. *Orn. Dict.* I. WALCK. *Syn.* Pl. 207. DONOV. *Brit. Birds*, I., Pl. 17. BEWICK, *Brit. Birds*, I., p. 135. SHAW'S *Zool.* IX., p. 238, Pl. 43. UBERS. II., p. 106, Sp. 5. —*Flamingo Grosbeak*, LATH. *Spn. Suppl.* p. 155, accid. var.

THE female Pine Bullfinch is eight and a half inches long, and thirteen and a half in extent. The bill measures more than half an inch, is blackish with the lower mandible paler at base, the feathers of the whole head, neck, breast, and rump, orange, tipped with brownish, the orange richer on the crown, where are a few blackish dots, the plumage at base plumbeous: the back is cinereous, somewhat mixed with orange, the shafts darker: belly and femorals pure cinereous: lower tail-coverts whitish, shafted with dusky: the wings are four and a half inches long, reaching beyond the middle of the tail: the smaller coverts are similar to the back, cinereous slightly tinged with orange: middle and larger

* See Wilson's *American Ornithology*, *Pine Grosbeak*, *Loxia enucleator*, Vol. II., p. 56, Pl. 5, Fig. 2, for the Male at the age of one year.

blackish, margined with whitish exteriorly and widely at tip; the lower coverts are whitish gray; quills blackish, primaries margined with pale greenish orange, secondaries and tertials with broad white exterior margins: the tail is three and three-quarter inches long, blackish, the feathers with narrow pale edges; feet dusky, nails blackish.

In the young female the head and rump are tinged with reddish. The male represented and most accurately described by Wilson, is not adult, but full one year old; at which period, contrary to the general law of nature, it is the brightest, as was first stated by Linné, though his observation has since been overlooked or unjustly contradicted. In the adult male, the parts that were crimson in the immature bird, exhibit a fine reddish orange, the breast and belly being also of that color, but paler; the bars of the wings, tinged with rose in the young, become pure white.

We have nothing to add to Wilson's history of this bird. Although after the example of Temminck and others, we place this species at the head of the Bullfinches, we cannot avoid remarking that its natural affinities connect it most intimately with the Crossbills, being allied to them closely in its habits and in its form, plumage, general garb, and even in its anomalous change of colors. The bill however, precisely that of a Bullfinch, induces us to leave it in that genus, between which and the Crossbills it forms a beautiful link: the obtuse point of the lower mandible, but especially the small, porrect, setaceous feathers covering the nostrils, as in these latter, eminently distinguish it from all others of its own genus. These characters induced Cuvier to propose it as a subgenus, under the name of *Corythus*, and Vieillot as an entirely distinct genus, which he first named *Pinicola*, but has since changed it to *Strobilophaga*. These authors have of course been followed by the German and English ornithologists of the new school, who appear to consider themselves bound to acknowledge every genus proposed, from whatever quarter, or however minute and variable the characters on which it is based.

COLUMBA LEUCOCEPHALA.
WHITE-CROWNED PIGEON.

[Plate XVII. Fig. 1.]

Columba leucocephala, LINN. *Syst.* I., p. 281, Sp. 14. GMEL. *Syst.* I., p. 772, Sp. 14. LATH. *Ind.* p. 594, Sp. 5. TEMM. *Ind. Col. in Hist. Pig. et Gall.* I., p. 459. VIEILL. *Gal. Ois.* II., p. 331, Pl. 194.—*Columba minor leucocoryphas*, RAIL, *Syn.* p. 63, Sp. 16, and p. 184, Sp. 24. KLEIN, *Av.* p. 120, Sp. 18.—*Columba saxatilis jamaicensis*, BRISS. *Orn.* I., p. 137, Sp. 33. ID. 8vo. I., p. 34.—*Columba capite albo*, *The White-crowned Pigeon*, CATESBY, *Car.* I., p. 25. Pl. 25. SELIGMAN, *Saml. Selt. Vog.* II., col. plate.—*Le Pigeon de roche de la Jamaïque*, BUFF. *Ois.* II., p. 529. SONN. *Buff.* VII., p. 216.—*Colombe à calotte blanche*, TEMM. *Hist. Pig. et Gall.* I., p. 204. ID. folio Pl. 13 of the second family.

THIS bird has been already alluded to in our first volume, when pointing out the difference between it and the new *Columba fasciata* of Say. We were then far from supposing that we should so soon have to become its historian, but having ascertained that it inhabits Florida, as well as the West Indies, we are enabled to give it a place in these pages. A glance at the plate will now render the difference strikingly obvious to the American student, who will thus perceive, better than can be explained by words, how entirely distinct the above named species is from the present.

The White-crowned Pigeon, well known as an inhabitant of Mexico and the West Indies, is likewise found in great numbers on some of the Florida Keys, such as Key Vacas and others, early in spring, where it feeds almost exclusively on a kind of wild fruit, usually called beach plum, and some few berries of a species of palmetto that appears to be peculiar to those keys. It is also extensively spread in Jamaica and St. Domingo, and is very abundant in the island of Porto Rico, frequenting deep woods, and breeding on rocks, whence they are called by some Rock Pigeons. They are very numerous on all the Bahama Islands, and form an important article of food with the inhabitants, particularly when young, being then taken in great quantities from the rocks where they breed. On the Florida Keys also they breed in large societies, and the young are much sought after by the wreckers. They there feed principally on berries, and especially on those of a tree called sweet-wood. When the fruit of this is ripe they become fat and well flavored, but other fruits again make their flesh very bitter.

Buffon, in accordance with his whimsical idea of referring foreign species to those of Europe, considers the present as a variety of the Biset (*Columba livia*, Briss.). To that bird it is in fact allied, both in

form and plumage, and has moreover the same habit of breeding in holes and crevices of rocks, but it is at the same time entirely distinct.

The size of the White-crowned Pigeon has been underrated by authors. Its length is fourteen inches and its extent twenty-three. The bill is one inch long, carmine red at the base, the end from the nostrils being bluish-white: the irides are orange yellow, the bare circle round the eye dusky white, becoming red in the breeding season. The entire crown, including all the feathers advancing far on the bill is white with a tinge of cream color, and is narrowly margined with black, which passes insensibly into the general deep slate color: on the nape of the neck is a small deep purplish space changing to violet; the remainder of the neck above, and on the sides, is covered by scale-like feathers, bright green with bluish and golden reflections, according as the light falls. The sides of the head, the body above, and whole inferior surface, the wings and tail above and beneath, in short the whole bird without any exception but the parts described, is of a uniform deep bluish slate, much lighter on the belly, more tinged with blue on the stout-shafted rump-feathers, somewhat glossy and approaching to brownish black on the scapulars: the quills are more of a dusky black. The wings are nearly eight inches long, reaching when closed to two-thirds of the tail; the first primary is somewhat shorter than the fourth, and the second and third are longest; the third is curiously scalloped on the outer web, which is much narrowed for two inches from the tip; all are finely edged with whitish. The tail is five inches long, perfectly even, of twelve uniform broad feathers with rounded tips. The feet are carmine red, the nails dusky; the tarsus measures less than an inch, being subequal to the lateral toes, and much shorter than the middle one.

The female is perfectly similar. It is one of this sex, shot in the beginning of March, that is represented in the plate, and is perhaps a young, or not a very old bird, for it would seem that as they advance in age, these Pigeons become somewhat lighter colored, the crown acquiring a much purer white. This however we only infer from authors, our plate and description being faithfully copied from nature.

The young are distinguished by duller tints, and the crown is at first nearly uniform with the rest of their dark plumage: this part after a time changes to gray, then grayish white, and becomes whiter and whiter as the bird grows older. It is proper to remark, after what has been said under the article of the Band-tailed Pigeon, ante, p. 200, that the white color extends equally over the whole crown, not more on one part than another; thus never admitting of a restricted band or line, as in that much lighter colored bird.

Another species closely allied to, and perhaps identical with our Band-tailed Pigeon (though we have equally good reasons for believing it the *Columba rufina* of Temminck), and of which we have not yet

been able to procure specimens, is also well known to breed on the Florida keys; whither probably almost all the West-Indian species occasionally resort.

COLUMBA ZENAIDA.

ZENAIDA DOVE.

[Plate XVII. Fig. 2.]

Columba zenaida, NOB. *Add. Orn. U. S. in Journ. Acad. Phil.* Id. *Cat. Birds U. S.* Sp. 198, in *Contr. Maccl. Lyc. Ph.* I., p. 22. Id. *Syn. Birds U. S.* Sp. 198. in *Ann. Lyc. Nat. Hist. N. Y.* II., p. 119. Id. *Suppl. in Zool. Journ. Lond.* v., p. 6.

THE name of Dove is not commonly used to designate a systematic group, but is employed for all the small Pigeons indiscriminately, whilst the larger Doves are known as Pigeons. Even this distinction of size however does not seem to be agreed upon, as we find authors calling the larger species Doves, and the smaller ones Pigeons, and sometimes even applying both appellations to different sexes or ages of the same species, as in the case of the common American Pigeon, *Columba migratoria*. This extensive family of birds, so remarkable for richness and splendor of colors, so important as contributing largely to supply the wants of mankind, so interesting as forming so perfect a link between the two great divisions of the feathered tribes, has been divided on more philosophical principles into three groups, which some naturalists consider as genera, and others as subgenera or sections. Of these two only are found represented in America, the third, a very natural group, being confined to Africa and the large eastern islands of the old world. That to which the present bird, and all the North American species but one, belong, is the most typical of all, being characterized by a straight and slender bill, both mandibles of which are soft and flexible, and the upper turgid towards the end; by their short tarsi, divided toes, and long acute wings, with the first primary somewhat shorter than the second, which is the longest. This group (the true Pigeons and Doves) is however so numerous in species, that we cannot but wonder that it should still remain comparatively untouched by the reforming hand of our contemporaries; especially seeing that as good reasons may be found for subdividing them as the Parrots, and other large natural groups. We may indicate the differences exhibited in the form of the scales covering the tarsus, and the shape of the tail, &c., as offering characters on which sections or genera could be founded. But as the species of the United States, which are those we are to treat of, are but few, we

shall leave the promising task to any one whose researches may lead him to engage in it; and shall only observe, that the two species described by Wilson belong to a different group from the three we have since introduced into the Fauna of this country. Of these the present beautiful Dove is the only one hitherto undescribed.

This new and charming little species inhabits the Florida keys with the preceding, but is much more rare. We have also received it from Cuba, and noticed a specimen in a collection of skins sent from that island by Mr. MacLeay to the Zoological Society of London. They are fond of being on the ground, where they are most commonly observed, dusting themselves, and seeking for the gravel which, like the gallinaceous birds, they swallow to assist digestion. When flushed they produce the same whistling noise with their wings as the common Turtle Dove, *Columba carolinensis*.

The Zenaida Dove measures ten inches in length. The bill is somewhat more robust than that of the common Dove, but otherwise perfectly similar, less than an inch long, black, the corners of the mouth being lake: the irides are dark brown, the pupil of the eye large, and the eye itself full, giving the whole bird a mild and pleasing expression: the naked orbits are of a bluish gray. The whole plumage above is yellowish ashy-brown, tinged with vinaceous on the crown, and paler on the sides of the head and neck; under the ears is a small bright rich and deep violaceous spot, rivalling the amethyst in splendor; and above this a similar smaller one, not very distinguishable: the sides of the neck before the bend of the wing exhibit splendid golden violaceous reflections slightly passing into greenish in different lights: the scapulars are spotted with black, the spots being large and roundish; the exterior wing-coverts, spurious wing and quill-feathers are blackish; the primaries are edged with white externally, and with the exception of the outer ones, at tip also; the secondaries are broadly terminated with white. The chin is yellowish white; the whole inferior surface is bright vinaceous, paler on the throat, and gradually passing into richer on the belly; the flanks and under wing-coverts are delicate lilac, and the under tail-coverts are mixed with the same color, some of the longest being entirely lilac, which is also found at the base of the plumage on the belly and rump. The wings are six inches and a quarter long, reaching within one inch of the tip of the tail: the primaries are entire on both vanes; the first is longer than the fourth, the second longest, though scarcely longer than the third. The tail is four and a half inches long, composed of twelve broad, full, rounded feathers, extending but one inch beyond their coverts: it is nearly even, and of the color of the body, with a broad black band at two-thirds of its length, obsolete on the two middle feathers (which are of the color of the body), purer on the three exterior; the lateral feathers are pearl-

gray for half an inch towards the tip, the outer plume being moreover of that color on the outer vane: all the tail-feathers are blackish on the inferior surface to within three quarters of an inch of their tips. The feet are red; the nails blackish; the tarsus measures three quarters of an inch in length.

The female is very similar to the male in size and color: the head however is but slightly tinged with vinaceous, the golden violet reflections of the neck are not quite so vivid, and the inferior surface of a paler vinaceous, but graduated as in the male. The lateral tail-feathers are also much more uniform with the middle one, and of course with the back, the three outer only on each side being pearl-gray at tip. This latter character however we should rather attribute to age than sex, if we had not good reason to believe that our female is a perfectly adult bird.

At first sight, the Zenaida Dove might perhaps be mistaken for the common Turtle Dove (*Columba carolinensis*, and *marginata* of authors), having the same general color and several common markings; but to mention no other differential character, the short even tail, composed of but twelve feathers, all rounded, the outer bluish-gray at tip, will at once distinguish it from the latter, which belongs to a different group, having the tail long cuneiform, and (what is found in no other American species, not even its close relation the Passenger Pigeon) composed of fourteen tapering and acute feathers, the two middle remarkably so, and the lateral pure white at tip. If any other distinction should be required, the white tips of the secondaries of our new species will afford a good one, as well as the outer tail-feather, the exterior web of which is blue-gray, crossed, as well as the others, by the black band; whilst in the *C. carolinensis* it is entirely pure white, the black band being confined to the inner web.

TETRAO OBSCURUS.

DUSKY GROUSE.

[Plate XVIII. Female.]

Tetrao obscurus, SAY, in *Long's Exped. to Rocky Mount.* II., p. 14. NOB. *Cat. Birds U. S. Sp.* 209, in *Contr. Maccl. Lyc. Phila.* I., p. 23. ID. *Syn. Birds U. S. Sp.* 207, in *Ann. Lyc. Nat. Hist. N. Y.* pp. 127, 442.

LINNÉ, in his genus *Tetrao*, brought together so great a number of species bearing no more than a distant resemblance to each other, and differing not only in their external characters, but even in their peculiar

habits, that he might with almost the same propriety have included in it all typical gallinaceous birds. Latham very judiciously separated the genus *Tinamus*, as well as that of *Perdix*, which latter he restored from Brisson. Illiger likewise contributed to our better knowledge of these birds by characterizing two more natural genera, *Syrrhaptes* and *Ortygis*. Temminck, in his *Histoire des Gallinacés*, carried the number to seven, but has since reduced it by reuniting *Coturnix* to *Perdix*.

The true *Tetraones* are divided by Vieillot into two genera, the *Lagopodes* forming a distinct one by themselves. These however we regard as no more than a subgenus, of which we distinguish three in our genus *Tetrao*. I. *Lagopus*, which represents it in the Arctic Polar regions; for whose climate they are admirably adapted by being clothed to the very nails in plumage suited to the temperature, furnished abundantly with thick down, upon which the feathers are closely applied. The color of their winter plumage is an additional protection against rapacious animals, by rendering it difficult to distinguish them from the snows by which they are surrounded. II. *Tetrao*, which is distributed over the more temperate climates; the legs being still feathered down to the toes. III. *Bonasia*, a new division, of which we propose *Tetrao bonasia*, L. as the type, in which only the upper portion of the tarsus is feathered. These occasionally descend still farther south than the others, inhabiting wooded plains as well as mountainous regions, to which those of the second section are more particularly attached. But the entire genus is exclusively boreal, being only found in Europe and the northern countries of America and Asia. The long and sharp-winged Grouse, or *Pterocles* of Temminck, which represent, or rather replace these birds in the arid and sandy countries of Africa and Asia, a single species inhabiting also the southern extremity of Europe, we consider, in common with all modern authors, as a totally distinct genus. That group, composed of but few species, resort to the most desert regions, preferring dry and burning wastes to the cool shelter of the woods. These oceans, as they might be termed, of sand, so terrific to the eye and the imagination of the human traveller, they boldly venture to cross in large companies in search of the fluid so indispensable to life, but there so scarce, and only found in certain spots. Over the intervening spaces they pass with extraordinary rapidity, and at a great elevation, being the only gallinaceous birds furnished with wings of the form required for such flights. This however is not the only peculiarity in which they aberrate from the rest of their order, and approach the Pigeons, being said to lay but few eggs, the young remaining in the nest until they are full-fledged, and fed in the mean time by the parents.

The Grouse dwell in forests, especially such as are deep, and situated in mountainous districts; the *Bonasiæ* however, and the *Tetrao cupido*, frequenting plains where grow trees of various kinds. The *Lagopodes*

of the Arctic regions, or Ptarmigans, are also found on the very elevated mountains of central Europe, where the temperature corresponds to that of more northern latitudes. Here they keep among the tufts of dwarf willows, which with pines, form the principal vegetation of these climates. The Grouse feed almost exclusively on leaves, buds, berries, and especially the young shoots of trees, pines, spruce, or birch, resorting to seeds only when compelled by scarcity of other food, or when their usual means of subsistence are buried beneath the snow. They sometimes, especially when young, pick up a few insects and worms, and are fond of ants' eggs. Like other gallinaceous birds, they are constantly employed in scratching the earth, are fond of covering themselves with dust, and swallow small pebbles and gravel to assist digestion. No birds are more decidedly and tyrannically polygamous. As soon as the females are fecundated, the male deserts them, caring no further about them nor their progeny, to lead a solitary life. Like perfidious seducers, they are full of attentions, however, and display the greatest anxiety to secure the possession of those they are afterwards so ready to abandon. The nuptial season commences when the leaves first appear in spring. The males then appear quite intoxicated with passion: they are seen, either on the ground, or on the fallen trunks of trees, with a proud deportment, an inflamed and fiery eye, the feathers of the head erected, the wings dropped, the tail widely spread—parading and strutting about in all sorts of extravagant attitudes, and expressing their feelings by sounds so loud as to be heard at a great distance. This season of ardor and abandonment is protracted till June. The deserted female lays, unnoticed by the male, far apart on the ground among low and thick bushes, from eight to sixteen eggs, breeding but once in a season. They sit and rear their young precisely in the manner of the common fowl, the chicks being carefully protected by the mother only, with whom they remain all the autumn and winter, not separating until the return of the breeding season. It is only at this period that the males seek the society of the females.

The Grouse are remarkably wild, shy, and untameable birds, dwelling in forests or in barren uncultivated grounds, avoiding cultivated and thickly inhabited countries, and keeping together in families. The *Lagopodes* only live in very numerous flocks composed of several broods, parting company when the return of spring invites them to separate in pairs of different sexes, which is always done by the birds of this division. Except in the breeding season, the Grouse keep always on the ground, alighting on trees only when disturbed, or when going to roost at night; by day retiring to the deepest part of the forest. The flesh of all Grouse is delicious food, dark-colored in some, and white in others, the dark being more compact, juicy, and richly flavored, as in *Tetrao cupido*; while the white, though somewhat dry, is distinguished for

delicacy and lightness. Such are the *Bonasiæ*, *T. umbellus* of America, and *T. bonasia* of Europe.

The Grouse are distinguished by a short stout bill, feathered at base, and they are of all gallinaceous birds those in which the upper mandible is the most vaulted: the feathers of the bill are very thick and close, and cover the nostrils entirely. The tongue is short, fleshy, acuminate, and acute. The eye is surmounted by a conspicuous red and papillous naked space. The tarsi are generally spurless in both sexes, and partly or wholly covered with slender feathers, which in the *Lagopodes* are thicker and longer than in the rest, extending not only beyond the toes, but growing even on the sole of the foot; a peculiarity which, agreeably to the observation of Buffon, of all animals is again met with only in the hare. These feathers in winter become still longer and closer. All the others have the toes scabrous beneath, and furnished with a pectinated row of processes each side.* This roughness of the sole of the feet enables them to tread firmly on the slippery surface of the ground or frozen snow, or to grasp the branches of trees covered with ice. Their nails are manifestly so formed as to suit them for scratching away the snow covering the vegetables which compose their food. The wings of the Grouse are short and rounded, the first primary is shorter than the third and fourth, which are longest. The tail is usually composed of eighteen feathers, generally broad and rounded. The Red Grouse, *T. scoticus*, however, and the European *Bonasiæ*, and *T. canadensis* or Spotted Grouse, have but sixteen; while our two new North American species have twenty, one of them having these feathers very narrow and pointed, the narrowness being also observed in the Sharp-tailed Grouse. They have the head small, the neck short, and the body massive and very fleshy.

The females of the larger species differ greatly from the males, which are glossy black, or blackish, while the former are mottled with gray, blackish, and rufous: such are all the typical *Tetraones* of Europe, and the Cock of the Plains, the Dusky, and the Spotted Grouse of America. The smaller species, in which both sexes are mottled, such as *T. phasianellus* and *T. cupido*, exhibit little or no difference in the plumage of the two sexes; which is also the case in all the *Bonasiæ* and *Lagopodes*. The young in their first feathers are in all respects like the female, and the males do not acquire their full plumage until after the second moult. All moult twice a year, and most of the *Lagopodes* change their colors with the seasons in a remarkable manner.

The genus *Tetrao* is now composed of thirteen species, three *Lago-*

* These processes are liable to fall off, at least in preserved skins. It is owing to this circumstance that we committed several errors in characterizing these birds in our *Synopsis of the Birds of the United States*.

podes, two *Bonasiæ*, and eight typical *Tetraones*. This enumeration does not include the *Tetrao rupestris*, which we do not consider well established, any more than the new species of Mr. Brehm. The species of *Lagopus*, as might be inferred from their inhabiting high northern latitudes, are common to both continents, with the exception of the Red Grouse, *T. scoticus*, which is peculiar to the British Islands, and which, from its not changing the colors of its plumage with the seasons, may be considered as forming the passage to the true *Tetraones*. Of these there are five in North America, each and all distinct from the three European. Of the two *Bonasiæ*, one is peculiar to the old, and the other to the new continent, the former having sixteen, the latter eighteen feathers to the tail. Thus the entire number is seven in Europe, while it is eight in North America. Setting aside the two common to both, and the respective *Bonasiæ*, we may consider the Cock of the Woods of Europe, as the parallel of the Cock of the Plains of America. The Black Grouse, *T. tetrrix*, will find its equivalent in the Dusky Grouse, *T. obscurus*; but the *T. hybridus* has no representative in America, any more than the *T. scoticus*. These however are more than replaced as to number, by the *T. phasianellus*, *T. cupido*, and *T. canadensis*, all American species which have none corresponding to them in the old world.

Perhaps no other naturalist has personally inspected all the known species of this genus of both continents, and having examined numerous specimens even of some of the rarest, and possessing all but one in my own collection, my advantages are peculiar for giving a monography of this interesting genus. Such a work it is my intention hereafter to publish, illustrated with the best figures, and accompanied with further details respecting their habits. In the mean time I shall merely state, that being replaced in Africa by *Pterocles*, and in South America by *Tinamus*, all the known species of Grouse are found in North America or in Europe, the European also inhabiting Asia; from whose elevated central and northern regions, yet unexplored, may be expected any new species that still remain to be discovered. The extensive wilds of North America may also furnish more, though we do not think so; for since we have become acquainted with both sexes of the Dusky Grouse and the Cock of the Plains, we have been able to refer satisfactorily to known species all those of which any indications occur in the accounts of travellers in this country.

North America is exceeded by no country in the beauty, number, and valuable qualities of her Grouse; and she is even perhaps superior to all others in these respects since the discovery of the Cock of the Plains. Although the careful and accurate researches of Wilson had led him to the belief that there existed but two species of Grouse in the territory of the United States, no less than six are now known to

inhabit within their boundaries. But we are not aware that any of the subgenus *Lagopus* ever enters the confines of the Union, notwithstanding the pains we have taken to obtain information on this point from the high northern districts of Maine and Michigan, in which, if anywhere, they are most likely to be discovered. It would however be very extraordinary if these birds, which are found in the Alps of Switzerland, should not also inhabit the lofty ranges of the Rocky Mountains, which are known to be the resort of the various species of Grouse. With the exception therefore of the well-known *Tetrao urbellus*, which belongs to *Bonasia*, all the others are true Grouse, *Tetraones*.

The Spotted, and the Sharp-tailed Grouse, were long since known as inhabitants of that part of America north of the United States; but the two others are newly added, not only to our Fauna, but to the General System, being found for the first time in the American territory and not elsewhere. For the history of the discovery, the manners, habitation, and a particular description of each of these, we shall refer the reader to their several articles.

The Dusky Grouse is eminently distinguished from all other known species, by having the tail slightly rounded, and composed of twenty broad and rounded feathers. This peculiarity of the extraordinary number of tail-feathers, is only found besides in the Cock of the Plains, in which however they are not rounded, but very slender, tapering, and acute. In size and color, the Dusky Grouse may be compared to the Black Grouse of Europe, so remarkable for the outward curvature of the lateral feathers of the tail.

The figure in our plate is taken from the specimen on which Say established the species: this was killed on a mountain in the great chain dividing the waters of the Mississippi from those which flow towards the Pacific; at a spot where, on the 10th of July 1820, the exploring party of Major Long were overlooking from an elevation of one or two thousand feet, a wide extent of country. A small river poured down the side of the mountain through a deep and inaccessible chasm, forming a continued cascade of several hundred feet. The surface of the country appeared broken for several miles, and in many of the valleys could be discerned columnar and pyramidal masses of sandstone, some entirely naked, and others bearing small tufts of bushes about their summits. When the bird flew, and at the unexpected moment of its death, it uttered a cackling note somewhat resembling that of the domestic fowl.

The female Dusky Grouse is eighteen inches in length. The bill measures precisely an inch, which is small in proportion; it is blackish, with the base of the under mandible whitish. The general color of the plumage is blackish brown, much lighter on the neck and beneath, all

the feathers having two or three narrow bars of pale ochreous, much less pure and bright on the neck and breast; the small short feathers at the base of the bill covering the nostrils are tinged with ferruginous, those immediately nearest the forehead have but a single band, and are slightly tipped, while the larger ones of the neck, back, rump, and even the tail-coverts, as well as the feathers of the breast, have two bands and the tip. These rufous terminal margins, on the upper portion of the back, and on the tail-coverts, are broad, and sprinkled with black, so as to be often blended with the lower band. The sides of the head, and the throat, are whitish dotted with blackish, the black occupying both sides of each feather, deepening and taking a band-like appearance on the inferior portion of the upper sides of the neck; on each feather of the breast is a whitish band that becomes wider on those nearest the belly; the flanks are varied with rufous, each feather having besides the small tip, three broad cross lines of that color, and a white spot at the tip of the shaft, increasing in size as they are placed lower. The belly feathers are plain dull cinereous, the lower tail-coverts are white, black at their base, with one or two black bands besides, and tinged between the bands with grayish ochreous. The wings are nine and a half inches long, with the third and fifth primaries subequal, the coverts as well as the scapulars are of the general color, with about two bands, the second of which is sprinkled as well as the tip, each feather being white on the shaft at tip; the primaries, secondaries, and outer wing-coverts, including their shafts, are plain dusky; the secondaries have ochreous zigzag marks on their outer webs, and are slightly tipped with dull whitish; the primaries themselves are somewhat mottled with dingy white externally, but are notwithstanding entirely without the regular white spots so remarkable in other Grouse; the lower wing-coverts and long axillary feathers are pure white. The tail measures in length seven and a half inches, is very slightly rounded, of twenty broad feathers, of which the lateral are plain blackish, with the exception of a few whitish dots at the base of their outer webs, and the middle ones being varied with rufous dots disposed like the bands across their whole width; all are thickly dotted with gray for half an inch at tip, which in the specimen figured, but by no means so much so in others, gives the tail an appearance of having a broad terminal band of cinereous sprinkled with blackish. This circumstance evinces the inutility of describing with the extreme minuteness to which we have descended in this instance, as after all the pains bestowed, the description is only that of an individual. The tail is pure black beneath, considerably paler at tip and on the undulations of the middle feathers. The tarsus is three-quarters of an inch long; the feathers with which it is covered, together with the femorals, are pale grayish ochreous undulated with dusky; the toes are dusky, and the nails blackish.

The male is but little larger, and entirely, but not intensely black. We can however say very little about it, having taken but a hasty and imperfect view of a specimen belonging to Mr. Sabine of London, and writing merely from recollection. The tail-feathers are wholly black, perfectly plain and unspotted, and in the female and young they are but slightly mottled, as is seen in almost all Grouse. Mr. Sabine has long had this bird in his possession, and intended dedicating it as a new species to that distinguished traveller Dr. Richardson.

TETRAO PHASIANELLUS.

SHARP-TAILED GROUSE.

[Plate XIX.]

Tetrao phasianellus, LINN. *Syst.* ed. 10, p. 160. GMEL. *Syst.* I., p. 747. FORST. *Phil. Trans.* LXII., pp. 394 and 425. LATH. *Ind. Orn.* p. 635, Sp. 2. BRISS. *Suppl.* p. 9. TEMM. *Ind. Gall. in Hist. Pig. & Gall.* III., p. 702. VIEILL. *Nouv. Dict. Hist. Nat.* SABINE, *Zool. App. to Frankl. Exp.* p. 681. NOB. *Cat. Birds U. S.* Sp. 208. ID. *Syn. Birds U. S.* Sp. 209.—*Tetrao urogallus*, var. β , LINN. *Syst.* I., p. 273, Sp. 1.—*Gelinotte à longue queue*, BUFF. *Ois.* II., p. 286. SONN. *Buff.* VI., p. 72. BONAT. *Tabl. Encyc. Orn.* p. 196, Pl. 91, fig. 1.—*Francolin à longue queue*, HEARNE, *Voy. à l'Océan du Nord* (Fr. transl.), p. 386.—*Tetra phasianelle*, TEMM. *Pig. et Gall.* III., p. 152.—*Long-tailed Grouse*, EDWARDS, *Glean.* Pl. 117. LATH. *Syn.* IV., p. 732. ID. *Suppl.* p. 21.—*Sharp-tailed Grouse*, PENN. *Arct. Zool.* Sp. 181.—*The Grouse, or Prairie Hen*, LEWIS and CLARK, *Exp.* II., p. 180, Sp. 1.

THIS species of Grouse, though long since said to inhabit Virginia, is in fact a recent acquisition to the Fauna of the United States; for it was only through an awkward mistake that it was ever attributed to that country. Mitchell, upon an inspection of Edwards's bad drawing of this bird, mistaking it for the Ruffed Grouse of that and the neighboring states, declared it to be an inhabitant of Virginia; and upon his authority Edwards gave it as such. This statement, however, led Wilson into the erroneous belief of the identity of the two species, in which he was further confirmed, when after the most careful researches he became satisfied that the Ruffed Grouse was the only species to be found in Virginia.

The gallant and lamented Governor Lewis gave the first authentic information of the existence of this bird within the limits of these states. He met with it on the upper waters of the Missouri, but observes, that it is peculiarly the inhabitant of the great plains of the Columbia. He states also that the scales, or lateral processes of the toes, with which it is furnished in winter like the rest of its genus, drop off in summer.

Say introduced the species regularly into the scientific records of his country. The expedition under Major Long brought back a specimen now in the Philadelphia Museum, from which, though a female, and unusually light colored, we have had our drawing made, on account of its having been procured in the American territory. The bird is never seen in any of the Atlantic States, though numerous in high northern latitudes. It is common near Severn river and Albany Fort, inhabiting the uncultivated lands in the neighborhood of the settlements, and particularly near the southern parts of Hudson's Bay, being often killed in winter near Fort York; but it does not extend its range to Churchill. Near Fort William on Lake Superior, the Sharp-tailed Grouse is also found in spring, and we have seen specimens killed in winter at Cumberland House, and others at York Factory in summer. In collections it is very rare; and Temminck, when he wrote his history of gallinaaceous birds, had never seen a specimen, nor did it exist at the time in any European museum.

It is by the shape of the tail that this Grouse is eminently distinguished from all others. The English name which we have, with Mr. Sabine, selected from Pennant, is much more applicable than that of Long-tailed, given by Edwards; for instead of being long, it is, except the middle feathers, remarkably short, cuneiform, and acute, more resembling that of some Ducks than of the Pheasant. By the elongated feathers, but in no other particular, this species approaches the African genus *Pterocles*. At Hudson's Bay it is called Pheasant, a name which though inappropriate, seems at least better applied to this than the Ruffed Grouse.

The original writers that have mentioned this Grouse are, Edwards, who first introduced it, and has figured the female from a badly stuffed specimen, being however the only figure before ours; Pennant; Hearne, who has given the most information concerning its habits derived from personal observation; and Forster, who has described it with accuracy. Linné at first adopted it from Edwards, but afterwards most unaccountably changed his mind, and considered it as a female of the European Cock of the Woods. It was restored by Latham and others to its proper rank in the scale of beings.

The Sharp-tailed Grouse is remarkably shy, living solitary, or by pairs, during summer, and not associating in packs till autumn; remaining thus throughout the winter. Whilst the Ruffed Grouse is never found but in woods, and the Pinnated Grouse only in plains, the present frequents either indifferently. They however, of choice, inhabit what are called the juniper plains, keeping among the small juniper bushes, the buds constituting their principal food. They are usually seen on the ground, but when disturbed fly to the highest trees. Their food in summer is composed of berries, the various sorts of which they eagerly

seek: in winter they are confined to the buds and tops of evergreens, or of birch and alder, but especially poplar, of which they are very fond. They are more easily approached in autumn than when they inhabit large forests, as they then keep alighting on the tops of the tallest poplars, beyond the reach of an ordinary gun. When disturbed in that position they are apt to hide themselves in the snow; but Hearne informs us that the hunter's chance is not the better for that, for so rapidly do they make their way beneath the surface, that they often suddenly take wing several yards from the spot where they entered, and almost always in a different direction from that which is expected.

Like the rest of its kind, the Sharp-tailed Grouse breeds on the ground near some bush, making a loose nest with grass, and lining it with feathers. Here the female lays from nine to thirteen eggs, which are white spotted with blackish. The young are hatched about the middle of June; they utter a piping noise, somewhat like chickens. Attempts have been repeatedly made to domesticate them, but have as constantly failed, all the young, though carefully nursed by their stepmother, the common hen, dying one after another, probably for want of suitable food. This species has several cries: the cock has a shrill crowing note, rather feeble, and both sexes when disturbed, or whilst on the wing, repeat frequently the cry of *cack, cack*. This well known sound conducts the hunter to their hiding place, and they are also detected by producing with their small, lateral, rigid tail-feathers, a curious noise resembling that made by a winnowing fan. When in good order, one of these Grouse will weigh upwards of two pounds, being very plump. Their flesh is of a light brown color, and very compact, though at the same time exceedingly juicy and well tasted, being far superior in this respect to the common Ruffed, and approaching in excellence the delicious Pinnated Grouse.

The adult male Sharp-tailed Grouse in full plumage is sixteen inches long and twenty-three in breadth. The bill is little more than an inch long, blackish, pale at the base of the lower mandible, and with its ridge entering between the small feathers covering the nostrils: these are blackish edged with pale rusty, the latter predominating: the irides are hazel. The general color of the bird is a mixture of white, and different shades of dark and light rusty on a rather deep and glossy blackish ground: the feathers of the head and neck have but a single band of rusty, and are tipped with white; those however of the crown are of a much deeper and more glossy black, with a single marginal spot of rusty on each side, and a very faint tip of the same, forming a tolerably pure black space on the top of the head. The feathers between the eye and bill, those around the eye above and beneath, on the sides of the head, and on the throat, are somewhat of a dingy yellowish

white, with a small black spot on each side, giving these parts a dotted appearance, but the dots fewer and smaller on the throat. The feathers of the back and rump are black, transversely varied on the margin and at tip with pale bright rusty sprinkled with black, forming a confused mixture of black and rusty on the whole upper parts of the bird; the long loose-webbed upper tail-coverts being similar, but decidedly and almost regularly banded with black and sprinkled with rusty, this color being there much lighter and approaching to white, and even constituting the ground color. The breast is brown, approaching chocolate, each feather being terminated by a white fringe, with a large arrow-shaped spot of that color on the middle of each feather, so that when the plumage lies close the feathers appear white with black crescents, and are generally described so. On the lower portion of the breast the white spots as they descend become longer and narrower, the branches forming the angle coming closer and closer to each other till the spot becomes a mere white streak along the shaft, but at the same time the white marginal fringe widens so considerably that the feathers of the belly may be properly called white, being brown only at their base, but the shaft is white even there, with no more than a brown heart-shaped spot visible on the middle. The heart-shaped brown spots of the belly become so very small at the vent, that this part appears pure white with a few very small blackish spots: the long flank feathers are broadly banded with black and white, somewhat tinged with ochraceous exteriorly; the under tail-coverts are white, blackish along the shafts, and more or less varied with black in different specimens, which also vary considerably as to the size and shape of all the spots, being in some more acute, in others more rounded, &c. The wings are eight inches long, the third and fourth primaries being the longest; the scapulars are uniform with the back, but besides the rusty sprinkling of the margins and tip, the largest have narrow band-like spots of a pure bright rufous, a slight whitish streak along the shaft in the centre, and a large white spot at the end. The smaller wing-coverts are plain chocolate brown; the spurious wing, and outer coverts, are of the same brown, but each feather bears at the point a large and very conspicuous pure white spot; all the other superior coverts are blackish, sprinkled and banded with rusty, each furnished with a conspicuous terminal spot; the under wing-coverts, together with the long axillary feathers, are pure white, each with a single small dusky spot, and are marbled with white and brownish on the outer margin; the quills are plain dusky brown, the primaries being regularly marked with pure white spots half an inch apart on their outer webs, except at the point of the first; the longest feather of the spurious wing, and the larger outer coverts have also a pair of these spots: the secondaries, besides the outer spots, which assume the appearance of bands, are tipped with pure white, forming

a narrow terminal margin, those nearest the tertials are also slightly marked with rusty; the tertials themselves are similar to the scapulars, that is, they are black, banded and sprinkled with different shades of rusty. The tail is strongly cuneiform and graduated, of eighteen feathers, with the middle five inches long, which is three more than the outer. According to some accounts, the two middle feathers are by more than two inches longer than the adjoining, but in all we have examined the difference was little more than an inch. The four middle are similar in shape, texture, and color, being narrow, flaccid, equal in breadth throughout, though somewhat dilated and cut square at the end. In color they vary considerably in different specimens, the ground being generally black, and the tips white, but more or less varied, in some with white and in others with rusty, these colors being at one time pure, at another sprinkled with blackish, and assuming various tints; in one specimen they are disposed in spots, in another in bands, lines, chains, angles, &c., but generally in a long stripe on each side of the shaft at base, and in transverse spots at the point of the two longest, while they are in round spots all along each side of the two shortest: in one specimen the latter are even almost plain, being dingy white, sprinkled with blackish on the whole of their outer web: all the other lateral feathers, entirely concealed by the coverts, are pure white at the point, but with dusky shafts, and are more or less broadly dark cinereous at base: these feathers are very rigid, and of a curious form, tapering from the base to the point, where they suddenly dilate; they are deeply emarginate at tip, and their inner lobe projects considerably. The tarsus is two inches long; the slender hair-like feathers covering it are, as well as the femorals, of a dingy grayish white, obsoletely waved with dusky; the toes are strongly pectinated, and are, as well as the nails, of a blackish dusky, while the long processes are whitish.

The foregoing minute description is chiefly taken from a handsome male specimen from Arctic America. There is no difference between the sexes, at least we have not been able to detect any in all the specimens of both that we have examined: hence we conclude that the difference generally described by authors, and which we have ourselves copied in our Synopsis, that of the breast being chocolate brown in the male, and uniform with the rest of the plumage in the female, does not exist. The female is merely less bright and glossy. Both sexes, like other Grouse, have a papillous red membrane over the eye, not always seen in stuffed skins, and which is said to be very vivid in the male of this species in the breeding season. This membrane, an inch in length, becomes distended, and projects above the eye in the shape of a small crest, three-eighths of an inch high. The male at this season, like that of other species, and indeed of most gallinaceous birds, struts about in a very stately manner, carrying himself very upright. The middle

feathers of the tail are more or less elongated, in young birds scarcely exceeding the adjoining by half an inch.

The spring plumage is much more bright and glossy than the autumnal, and also exhibits differences in the spots and markings. The specimen we have selected for our plate, on account of its being the only one we had from the United States territory, is a female in the autumnal dress, and was brought from the Rocky Mountains. We think proper to insert here in detail the description we took from it at the time, thus enabling the reader to contrast it with that made from a Northern specimen in spring plumage, rather than point out each and all the numerous and at the same time minute and unimportant variations.

The female represented in the figure was fifteen inches long. Its general color mottled with black and yellowish rufous: the feathers of the head above are yellowish rufous banded with black, the shaft yellowish: a line above the eye, the cheeks, and the throat, are pure yellowish rusty with very few blackish dots, and a band of the latter color from the bill beneath the eye and spreading behind. All the lower parts are whitish cream, with a yellowish rusty tinge; each feather of the neck and breast with a broad blackish subterminal margin in the shape of a crescent, becoming more and more narrow and acute as they are lower down on the belly, until the lowest are reduced to a mere black mark in the middle; the lower tail-coverts and the femorals are entirely destitute of black. All the upper parts, viz., the back, rump, upper tail-coverts, and scapulars, have a uniform mottled appearance of black and rusty, each feather being black with rusty shafts, spots, bands, or margins, the rusty again minutely dotted with black: on the rump, but especially on the tail-coverts, the rusty predominates in such a manner that each feather becomes first banded with black and rusty, then decidedly rusty varied with black, which however does not change in the least the general effect. The wing-coverts are dusky, each with a large round white spot at tip, the inner gradually taking the markings of the back and scapulars; the lining of the shoulder is plain dusky, as well as the spurious wing and the primaries, each feather of the spurious wing having about five large round spots of white on its outer web; the primaries are regularly marked on the same side with eight or ten squarish equidistant white spots, with a few inconspicuous whitish dots on their inner web besides; the secondaries are also dusky, but in them the spots take the appearance of bands continued across the whole feather, of which bands there are three or four, including the terminal; the inner secondaries become darker and darker as they approach the body, the white becomes rufous, the dots are more frequent, and they become confounded with the scapulars, and are banded and mottled with various tints of black and

rusty: the lower wing-coverts and long axillary feathers are pure white, the outer coverts being marbled with dusky. The tail is composed of eighteen feathers; it is cuneiform, very short, and entirely hidden by the coverts, except the four middle feathers; the two middle feathers are flaccid, narrow, equal in breadth throughout, longer than the others by more than an inch, rusty, crossed by chained bands of black, and dotted with black and whitish at tip; the two next are also longer than the others, nearly whitish, but almost similar in shape, markings, and texture, to the longest; the lateral decrease in size very fast from the centre, but by regular degrees, and are remarkably stiff, somewhat like those of Woodpeckers, wider at base and tip than in the middle, pure white at the end and on the inner web, the shaft black, and the outer web dotted with blackish; they are deeply emarginate at tip, the inner lobe being longer, acute, and singularly shaped.

TETRAO CANADENSIS.

SPOTTED GROUSE.

[Plate XX., Male. Plate XXI., Fig. 1, Female.]

Tetrao canadensis, LINN. *Syst.* i., p. 274, Sp. 3. GMEL. *Syst.* i., p. 749, Sp. 3. LATH. *Ind.* p. 637, Sp. 6. FORSTER, in *Phil. Tr.* LXII., p. 389. TEMM. *Ind. Gall. in Hist. Pig. et Gall.* III., p. 702. VIEILL. *Nouv. Dict. Hist. Nat.* SABINE, *Zool. App. Frankl. Exp.* p. 683. NOB. *Cat. Birds U. S.* Sp. 207. ID. *Syn. Birds U. S.* Sp. 208.—*Tetrao canace*, LINN. *Syst.* i., p. 25, Sp. 7, Female.—*Lagopus Bonasa Freti Hudsonis*, BRISS. *Orn.* i., p. 201, Sp. 6. ID. *Suppl.* p. 10. ID. 8vo. IV., p. 56, Male.—*Lagopus Bonasa canadensis*, BRISS. *Orn.* i., p. 203, Sp. 7, Pl. 20, fig. 2. ID. 8vo. IV., p. 57, Female.—*Lagopus Freti Hudsonis*, KLEIN, *Av.* p. 117, Sp. 6.—*La Gelinotte du Canada*, BUFF. *Ois.* II., p. 279.—ID. *Pl. enl.* 131, Male, 132, Female. SONN. *Buff.* VI., p. 58. BONAT. *Tabl. Enc. Orn.* p. 197, Pl. 91, fig. 2.—*Tetras tacheté, ou Acaho*, TEMM. *Pig. et Gall.* III., p. 160, bis.—*Black and Spotted Heathcock*, EDW. *Glean.* p. 118, Pl. 118, Male.—*Brown and Spotted Heathcock*, EDW. *Glean.* p. 71, Pl. 71, Female. ELLIS, *Hudson Bay*, I., t. p. 50.—*Spotted Grouse*, PENN. *Arct. Zool.* Sp. 182. LATH. *Syn.* IV., p. 735, Sp. 6. ID. *Suppl.* p. 214, accid. var.—*The small speckled Pheasant*, LEWIS and CLARK, *Exp.* II., p. 182, Male.—*The small brown Pheasant*, ID. *Id. Exp.* II., p. 182, Female.

As may be seen by the synonymy, two separate species have been made of the present, the male and female being taken for different birds. This error, which originated with Edwards and Brisson, from whom it was copied by Linné, was rectified by Buffon, Forster, and others; and in their decision Gmelin, Latham, and all subsequent writers have acquiesced. Both sexes were tolerably well figured by Buffon, as they had also been previously by Edwards; but we feel justified in saying that none of their plates will bear a comparison with the present.

The Spotted Grouse is well characterized by its much rounded tail,

of but sixteen broad and rounded feathers, and may be at once distinguished from all others by the large and conspicuous white spots ornamenting the breast, flanks, and under tail-coverts. It has been inaccurately compared with the European *Tetrao bonasia*, from which it differs very materially, not even being of the same subgenus, and approaching nearer, if indeed it can be compared with any, to the *Tetrao urogallus*.

This bird is common at Hudson's Bay throughout the year, there frequenting plains and low grounds, though in other parts of America it is found on mountains, even of great elevation. It inhabits Canada in winter, and was seen by Vieillot in great numbers during the month of October in Nova Scotia. Lewis and Clark met with it on the elevated range of the Rocky Mountains, and brought back from their western expedition a male specimen and deposited it in the Philadelphia Museum, where it was long exhibited under the name of Louisiana Grouse. This, as truly observed by Say, first entitled it to rank among the birds of the United States. But the Rocky Mountains are not the only region of the United States territory where the Spotted Grouse is found. We have traced it with certainty as a winter visitant of the northern extremity of Maine, Michigan, and even of the state of New York; where, though very rare, it is found in the counties of Lewis and Jefferson. On the frontiers of Maine it is abundant, and has been seen by Professor Holmes, of the Gardiner Lyceum, near Lake Umbagog and others. In these countries the Spotted Grouse is known by the various names of Wood Partridge, Swamp Partridge, Cedar Partridge, and Spruce Partridge. The American settlers of Canada distinguish it by the first. In Michigan and New York it goes generally by the second. In Maine it bears the third, and in other parts of New England, New Brunswick, &c., more properly the last. We have been informed by General Henry A. S. Dearborn, that they are sent from Nova Scotia and New Brunswick to Boston in a frozen state; as in the north they are known to be so kept hanging throughout the winter, and when wanted for use, they need only be taken down and placed in cold water to thaw. General Dearborn, to whom we are much indebted for the information which his interest for science has induced him voluntarily to furnish, further mentions, that he has heard from his father that during the progress of the expedition under Arnold through the wilderness to Quebec in 1775, these Grouse were occasionally shot between the tide waters of Kennebec river and the sources of the Chaudière, now forming part of the state of Maine. Fine specimens of the Spotted Grouse have been sent to the Lyceum of Natural History of New York from the Sault de Ste. Marie, by Mr. Schoolcraft, whose exertions in availing himself of the opportunities which his residence affords him for the advancement of every branch of zoology, merit the highest praise. He

informs us that this bird is common from Lake Huron to the sources of the Mississippi, being called in the Chippeway language, Mushecodasee, i. e., Partridge of the Plains.

The favorite haunts of the Spotted Grouse are pine woods and dark cedar swamps, in winter resorting to the deep forests of spruce to feed on the tops and leaves of these evergreens, as well as on the seeds contained in their cones, and on juniper berries. Hence their flesh, though at all times good, is much better in summer, as in winter it has a strong flavor of spruce. At Hudson's Bay, where they are called indifferently Wood or Spruce Partridge, they are seen throughout the year. Like other Grouse, they build on the ground, laying perhaps fewer eggs: these are varied with white, yellow, and black. They are easily approached, being unsuspicious, and by no means so shy as the common Ruffed Grouse, and are killed or trapped in numbers without much artifice being necessary for this purpose. When much disturbed, like their kindred species they are apt to resort to trees, where, by using the precaution of always shooting the lowest, the whole of the terrified flock may be brought down to the last bird.

The Spotted Grouse is smaller than the common Partridge or Pheasant, being but fifteen inches in length. The bill is black, seven-eighths of an inch long. The general color of the plumage is made up of black and gray mingled in transverse wavy crescents, with a few of grayish rufous on the neck. The small feathers covering the nostrils are deep velvety black. The feathers may all be called black as to the ground color, and blackish plumbeous at the base; on the crown, upper sides of the head above the eye, and the anterior portion of the neck, they have each two gray bands or small crescents, and tipped with a third; these parts, owing to the gray margin of the feathers being very broad, appear nearly all gray. These longer feathers of the lower part of the neck above, and between the shoulders, are more broadly and deeply black, each with a reddish band, and gray only at tip; the lowest have even two reddish bands, which pass gradually into grayish; a few of the lateral feathers of the neck are almost pure white, all the remaining feathers of the upper parts of the body have two grayish bands, besides a slight tip of the same color, some of the lowest and longest having even three of these bands besides the tip. The very long upper tail-coverts are well distinguished, not only by their shape, but also by their colors, being black brown, thickly sprinkled on the margins with grayish rusty, and a pretty well defined band of that color towards the point, then a narrow one of deep black, and are broadly tipped with whitish gray, more or less pure in different specimens; their shafts also are brownish rusty. The sides of the head beneath the eyes, together with the throat, are deep black with pure white spots, the white lying curiously upon the feathers, so as to form a band about the middle, con-

tinued along the shaft, and spreading at the point; but the feathers being small on these parts, the white spots are not very conspicuous. The breast also is deep black, but each feather broadly tipped with pure white, constituting the large spots by which this species is so peculiarly distinguished. On the flanks, the feathers are at first from their base waved with black and grayish rusty crescents, but these become gradually less pure and defined, and by getting confused, make the lowest appear mottled with the two colors; all are marked along the shaft with white, dilating at tip, forming on the largest a conspicuous terminal spot. The vent is for a space pure white, the tips of its downy feathers being of that color: the under tail-coverts are deep black, pure white for half an inch at their tip, and with a white mark along the shaft besides. The wings are seven inches long, the fourth primary alone being somewhat longer than the rest. The upper coverts and scapularies are blackish, waved and mottled with grayish rusty; the longest scapularies have a small terminal spot of pure white along their shaft. The smaller coverts are merely edged with grayish rusty, and in very perfect specimens they are even plain; the under wing-coverts are brownish dusky, edged with grayish, some of the largest, as well as the long axillary feathers, having white shafts dilating into a terminal spot; the remaining inferior surface of the wing is bright silvery gray: the spurious wing and the quills are plain dusky brown, the secondaries being slightly tipped and edged externally with paler, and those nearest the body somewhat mottled with grayish rusty at the point and on the inner vane; the primaries, with the exception of the first, are slightly marked with whitish gray on their outer edge, but are entirely destitute of white spots. The tail is six inches long, well rounded, and composed of only sixteen feathers. These are black, with a slight sprinkling of bright reddish on the outer web at base, under the coverts, which disappears almost entirely with age; all are bright dark rusty for half an inch at their tip, this color itself being finely edged and shafted with black. The tarsus measures an inch and a half, its feathers, together with the femorals, are dingy gray, slightly waved with dusky; the toes are dusky; the lateral scales dingy whitish, and the nails blackish.

The female is smaller than the male, being more than an inch shorter. The general plumage is much more varied, with less of black, but much more of rusty. There is a tinge of rufous on the feathers of the nostrils. Those of the head, neck, and upper part of the back, are black, with two or three bright bands of orange rusty, and tipped with gray; there is more of the gray tint on the neck, on the lower part of which above, the orange bands are broader; all the remaining parts of the body above, including the tail-coverts, are more confusedly banded and mottled with duller rusty, orange, and gray, on a blackish ground, these colors themselves being also sprinkled with a little black. The sides

of the head, the throat, and all the neck below, are dull rusty orange, each feather varied with black; on the lower portion of the breast the black bands are broad and very deep, alternating equally with the orange rusty, and even gradually encroaching upon the ground color. The breast is deep black, each feather, as well as those of the under parts, including the lower tail-coverts, are broadly tipped with pure white, forming over all the inferior surface very large and close spots, each feather having besides one or two rusty orange spots, much paler and duller on the belly, and scarcely appearing when the plumage lies close: the feathers of the flanks are blackish, deeper at first, and barred with very bright orange, then much mottled with dull grayish rusty, each having a triangular white spot near the tip. The wings and tail are similar to those of the male, the variegation of the scapulars and upper coverts being only of a much more rusty tinge, dull orange in the middle on the shaft, all the larger feathers having moreover a white streak along the shaft ending in a pure white spot, wanting in the male. The outer edge of the primaries is more broadly whitish, and the tertials are dingy white at the point, being also crossed with dull orange; the tail-feathers, especially the middle ones, are more thickly sprinkled with rusty orange, taking the appearance of bands on the middle feathers, their orange-colored tip being moreover not so pure, and also sprinkled.

The bird represented in the plate comes from the Rocky Mountains: it is a male, and remarkably distinguished from the common ones of his species by having the tail-feathers entirely black to the end. This difference I have observed to be constant in other specimens from the same wild locality; whilst all the northern specimens, of which I have examined a great number, are alike distinguished by the broad rufous tip, as in those described, and as also described by Linné and all other writers, who have even considered that as an essential mark of the species. The Rocky Mountain specimens are moreover somewhat larger, and their toes, though likewise strongly pectinated, are perhaps somewhat less so, and the tail-coverts are pure white at tip, as represented in the plate. But heaven forbid that our statements should excite the remotest suspicion that these slight aberrations are characteristic of different species. If we might venture an opinion not corroborated by observation, we would say, that we should not be astonished if the most obvious discrepancy, that of the tail, were entirely owing to season, the red tip being the full spring plumage; though it is asserted that this species does not vary in its plumage with the seasons. However this may be, we have thought proper to give a representation of the anomalous male bird from the Rocky Mountains in our plate, whilst the female, placed with the Cock of the Plains, that its reduced size may be properly estimated, has been chosen among the ordinary specimens

having the tails tipped with red; the red tip being still more conspicuous in the common males, from which in order to comprehend all, our description has been drawn up.

TETRAO UROPHASIANUS.

COCK OF THE PLAINS.

[Plate XXI. Fig. 2.]

Tetrao urophasianus, NOB. in *Zool. Journ. Lond.* ID. *App. to Syn. Birds U. S.* p. 442, in *Ann. Lyceum Nat. Hist. New York.*—*The Cock of the Plains*, LEWIS and CLARK, *Exp.* II., p. 180, Sp. 2.

IT is with the liveliest satisfaction that we are enabled finally to enrich the North American Fauna with the name, portrait, and description of this noble bird; which must have formed from the earliest periods a principal ornament of the distant wilds of the west. Hardly inferior to the Turkey in size, beauty, and usefulness, the Cock of the Plains is entitled to the first place in the beautiful series of North American Grouse, in the same rank that the Cock of the Woods so justly claims among those of Europe and Asia.

This fine bird, like its European analogue, seems to be restricted within certain bounds, and is probably nowhere numerous, owing to its bulk, limited powers of flight, and the eagerness with which it is pursued; but chiefly to its polygamous habits, which are the cause of desperate combats between the males for the possession of the females. However long the period since it was first heard of in the accounts of hunters and travellers, no more was known than that there existed in the interior of America a very large species of Grouse, called by the hunters of the west the Prairie Turkey. We have little to add, it is true, to what is known of its habits, but we have it in our power to say that we have seen it, we can determine its place in the system, and now give a faithful representation of at least one sex.

We have again to acknowledge ourselves indebted, no less to the industry and sagacity, than to the liberal views of Mr. Leadbeater, for the present opportunity of representing this bird. His invaluable collection contains the only specimen known to be any where preserved.

The name of Cock of the Plains was given by Lewis and Clark, and we have retained it, as being not only appropriate, but at the same time analogous to that of the large European species called Cock of the Woods. Similar reasons have influenced us in selecting the scientific name, which though perhaps too long, and ill compounded, has never-

theless the advantage of combining analogy in meaning with the indication of a most remarkable characteristic of the bird. This species is in fact distinguished from all others of its genus, and especially from its European analogue, by its long tail, composed of twenty narrow, tapering, acute feathers; thus evincing the fallacy of the character erroneously attributed to all the Grouse, of having broad and rounded tail-feathers. It is a singular fact that both of the newly discovered species from the north-western part of America, and they only, should be distinguished by the extraordinary number of the feathers of the tail. In the Dusky Grouse, however, they are broad and rounded. The Cock of the Woods, like the greater part of the species, has but eighteen, which are also broad and rounded. The only Grouse in which they are found narrow is the Sharp-tailed, though without being either acute or tapering, but on the contrary square at tip, and of equal breadth throughout, or if anything, the lateral rather broader at the tip.

Lewis and Clark first met with this bird on their journey westward near the fountain of the Missouri, in the heart of the Rocky Mountains. They inform us that it is found on the plains of the Columbia in great abundance, from the entrance of the south-east fork of the Columbia to that of Clark's river. It appears also to extend to California, for there can be but little doubt that it is the bird erroneously called Bustard by the travellers who have visited that country. Lewis and Clark state that in its habits it resembles the Grouse (meaning probably *T. phasianellus*), except that its favorite food is the leaf and buds of the pulpy-leaved thorn. The gizzard is large, and much less compressed and muscular than in most gallinaceous birds, and perfectly resembles a maw. When the bird flies, he utters a cackling note, not unlike that of the domestic fowl. The flesh of the Cock of the Plains is dark, and only tolerable in point of flavor, and is not so palatable as either that of the Pheasant or Grouse. It is invariably found in the plains.

The Cock of the Plains is precisely equal in size to the Cock of the Woods; at least such is the result of a comparison of the female with the corresponding sex of the European bird, both lying before us. Each part exactly coincides in form and dimension, excepting that the tail rather gives the superiority to the American, so that if the male bears the same relative proportion to his female, the Cock of the Plains must be proclaimed the largest of Grouse. The two females are strikingly similar. The Cock of the Plains is however a much more grayish bird, wanting entirely the reddish that mottles, and occupies so much of the plumage of its analogue. This, the total want of beard-like appendages, and the singular shape of the tail, are the prominent discriminative features; to which may be added, that the under wing-coverts marbled with black in the European, are pure white in our new species, though this, as well as the want of reddish, might be ascribed to the youth of

our specimen. However this may be, the remaining differences will be better estimated by attending to the following minute and accurate description.

The female of the Cock of the Plains, represented in the plate of one half the natural size, is from twenty-eight to thirty inches in length. The bill is one inch and a quarter long, perfectly similar to that of *T. urogallus*, perhaps a trifle less stout, and with the base (if this remarkable character be not accidental in our specimen) farther produced among the feathers of the front. The whole plumage above is blackish, most minutely dotted, mottled and sprinkled with whitish, tinged here and there with very pale yellowish rusty, hardly worth mentioning: on the head, and all the neck, the feathers being small minutely crossed transversely with blackish and whitish lines, gives the plumage quite a minutely dotted appearance: the superciliar line is slightly indicated by more whitish; on a spot above the eye, in the space between the bill and eye, and along the mouth beneath, the black predominates, being nearly pure: on the throat, on the contrary, it is the white that prevails, so as to be whitish dotted with black: on the lower portion of the neck the black again is the prevailing color, the black feathers there being nearly tipped with grayish; the sides of the neck are pure white for a space; from the lower portion of the neck to the upper tail-coverts inclusively, the back, scapulars, wing-coverts, and secondaries, the blackish feathers have each two or three yellowish white bands, which are broader especially on the upper part of the back, and are moreover sprinkled with white somewhat tinged with rusty: the scapulars and wing-coverts are besides shafted with white somewhat dilating towards the point, the scapulars being of a deeper black; the spurious wing and primaries are plain dusky with paler edges, the outer with some indications of whitish dots (generally found in Grouse) on the outer vane, but no regular white spots; the secondaries are tipped with white, and those which are next to the primaries nearly plain on their inner web; the primaries are rather slender, the inferior surface of the wings is of a very pale silvery gray; the under wing-coverts and long axillary feathers being pure silvery white, excepting on the lining of the wing, which is dusky blackish. The wings are twelve inches long. The breast is grayish, somewhat mottled with black; on each side below is a pure white space, some of the feathers of which are tipped or banded with black; the large feathers of the flanks are blackish shafted with white, crossed by several whitish bands and sprinkled with yellowish: a broad oblong patch of deep brownish black occupies the whole of the belly and vent, the outer feathers being shafted with white, and broadly white at the point of their outer webs. The femorals and small feathers of the tarsus extending between the toes are yellowish gray minutely waved with blackish: the tarsus

measures two inches; the toes are dusky black, and the pectinated row of processes long, strong, and dingy whitish; the nails blackish. The whole base of the plumage, with the exception of that of the neck beneath (which is white), is of a dusky gray. The tail is ten inches long, and in color is, as well as its coverts, in harmony with the rest of the plumage; the ground color is blackish, and crossed or rather mottled with bands of whitish spots disposed irregularly, between which are small additional darker spots; the two middle ones are mottled all over, but the others are almost immaculate on their inner vane and at the point; hence the lower surface of the unexpanded tail is of a silvery gray much darker than that of the wings; at the very tip of the tail-feathers, the middle excepted, appears a very small whitish spot, the two outer pairs being rather broadly yellowish white, dotted with blackish on that part. The tail is composed of twenty feathers, the highest number ever met with in any tribe of birds. Although it appears strongly cuneiform, owing to the remarkable shape and curve of the feathers, it is when expanded and properly examined, nothing more than much rounded, the two in the middle, which are the longest, reaching but a trifle beyond the adjoining, and so on in succession, the difference in length increasing progressively, but very gradually at first, and more and more as they are distant from the centre, there being nearly an inch difference between the third and second, and full that between the second and the outer, which is only six inches long, while the middle is ten. All the twenty are narrow, tapering, acute, and falciform, turning inward. Those toward the middle are less curved, but more conspicuously acuminate and narrow for nearly two inches, all but the middle ones being slightly square at their narrow tips.

Though we have reason to believe that the specimen described and figured is a female, yet from the broad patch upon the belly, and other marks unnecessary to be specified, we should not be surprised at its being a young male just beginning to change. In that case, and supposing him to have attained his full growth, this species would prove to be inferior in size to the Cock of the Woods, as its male would only be equal to the female of the latter.

CATHARTES GRYPHUS.

CONDOR.

[Plate XXII. Young Male.]

Vultur Gryphus, LINN. *Syst.* I., p. 121, Sp. 1. GMEL. *Syst.* I., p. 245, Sp. 1. LATH. *Ind. Orn.* I., p. 1, Sp. 1. *Encycl. Brit.* XVIII., p. 695, pl. 510. HUMBOLDT, *Hist. Nat. in Obs. Zool.* I., p. 26, pl. 8, 9.—*Vultur magellanicus*, LEVER. *Mus.* p. 1, pl. 1, Female.—*Vultur condor*, DAUD. *Orn.* II., p. 8. SHAW, *Zool.* VII., p. 2, pl. 2, 3, 4.—*Cathartes gryphus*, TEMM. RANZANI, *Nob. Cat. & Syn. Bds. U. S.* Sp. 2.—*Gypagus griffus*, VIEILL. *Enc.* III., p. 1174. ID. *Nouv. Dict.*—*Sarcoramphus Cuntur*, DUMERIL. *Sarcoramphus gryphus*, GOLDFUSS, *Nat. Atlas*, pl. 107, adult Male.—*Sarcoramphus condor*, LESS. *Orn.* I., pl. 7, adult Male.—*Vultur Gryps Gryphus*, KLEIN, *Av.* p. 45. BRISS. *Av.* I., p. 473. ID. 8vo. p. 137. BOROWSKY, *Nat.* II., p. 62.—*Cuntur*, LAET. *Am.* p. 401. RAY, *Av.* p. 11.—*Catarte condoro*, RANZ. *Elem.* VII., p. 24, Sp. 2, tab. XXII., fig. 2, adult Male.—*Il Condoro*, MOLINA, *St. Nat. Chili*, p. 223.—*Manque*, MOLINA, *Chili*, p. 236 (French edition).—*Condor*, FREZIER, *Voy.* p. III. LA CONDAMINE, *Voy. Amaz.* p. 175. BRISS. *Orn.* I., p. 473, Sp. 12. BUFF. *Ois.* I., p. 184. ID. (ed. 1770) I., p. 143, v. MARTINET, *Hist. Ois.*—*Le Condor, ou Grand Vautour des Andes*, CUV. *Règn. An.* I., p. 306. ID. ed. 2, p. 316.—*Catharte Condor*, TEMM. & LAUG. pl. col. 133, adult Male, 494, head of the adult living Male, 408, young Female.—*Condur Vulture*, LATH. *Syn.* p. 4. ID. *Suppl.* I., p. 1. ID. *Suppl.* II., p. 1, pl. CXX. ID. *Gen. Hist.* I., p. 4, pl. 1, adult Male. HAWKESW. *Voy.* I., p. 75. WOOD'S *Zoography*, I., p. 371. STEVENSON, *Voy. Am.* II., p. 59.—*Der Condor Geier*, of German authors.—*Cabinet of the Academy of Natural Sciences.*

To such a degree has its history been exaggerated by fable, that the mention of the Condor immediately recalls to mind the Roc, of Marco Polo and the Arabian Tales. Some authors have indeed referred this name to it, and even go so far as to make it the subject of one of the labors of Hercules, the destruction of the Stympalian birds. Such in fact were the stories related by the early travellers, that even when reduced to what in the judgment of Buffon was their real value, it cannot but now appear unaccountable that they should ever have found credence, and still more so that compilers should have gone on accumulating under the Condor's history not merely the tales told of it, but others collected from every quarter of the globe, however remote or different in climate, not hesitating to give currency to the most revolting absurdities. The accounts of Father Feuillée, who was the first describer, Frezier, and especially Hawkesworth's, appear however to be tolerably correct; while the ardent imagination of Garcilasso led him to indulge in the wildest extravagances in relation to this bird. Abbeville and de Laet, no less than Acosta, in his History of the Indies,

ascribed to this cowardly Vulture the strength, courage, and raptorial habits of an Eagle, and even in a higher degree, thus doing him the honor to represent him as formidable to every living creature, and the dreaded enemy of man himself. Desmarchais improves if possible upon these stories, giving the Condor still greater size and strength, and stating that it is well known to carry off in its prodigious talons a hind, or even a heifer, with as much ease as an Eagle would a rabbit! Such a creature could not of course dwell in forests, for how could it among trees display its enormous wings? They were therefore limited to savannahs and open grounds. Antonio de Solis, Sloane in the *Philosophical Transactions*, and even the learned La Condamine, who saw the bird himself, and certainly witnessed no such exploits as had been related of it, indulged in wild theories depending on popular tales and superstitions. The obscurity created by so much misrepresentation could not, however, conceal its true Vulture-like nature from the acuteness of Ray, who pointed out its appropriate place in the system. His opinion was adopted by Brisson and Linné, and it became among naturalists generally a settled point, notwithstanding the eloquently expressed doubts of Buffon, who wanted rather on account of its supposed great strength and agility to elevate the Condor to the rank of an Eagle, these qualities not permitting him to degrade it so low as the Vultures. But a still greater error of the French Pliny, as he may be on every account so appositely styled, was to consider the Condor as not peculiar to America, but as a genuine cosmopolite, of which happily there were but few, however, for otherwise the human race would not have been able to stand against them. But it was only in its imaginary character that the Condor of Buffon was truly cosmopolite, having no other existence than what was based upon absurd and ridiculous fictions gathered in all parts of the globe; for no living bird could be placed in competition with one for whose powers of flight distance was no impediment, and whose strength and swiftness united would have rendered him lord of creation.

We should, however, make some allowance for the credulity of our forefathers, in believing upon the reports of weak or lying travellers all the romantic and extravagant tales related of this wondrous Condor. They had not, as we have, the means of personally ascertaining the sober truth. But it is almost incredible, and remarkably illustrates the force of preconceived opinions, that in the year 1830, a traveller could be found with assurance enough to impose upon us, and journals, even of respectable standing, to copy as positive and authentic, a description of a Condor of *moderate size*, just killed, and actually lying before the narrator, so large that a single quill-feather was twenty good paces long! This indeed might have lifted an Elephant, and it is quite unfortunate that Peru and Chili should no longer produce them for prey for such a

bird, and that the Mastodon is now extinct. So much for human credulity, which is often exercised upon more serious occasions, with equal impudence and much worse results.

As in so many other instances of power based upon prejudice, or great reputation unjustly usurped, a near and close examination has shown the falsity of these pretensions. The wonderful Condor now proves to be nothing more than a rather large Vulture. The same has happened, as Humboldt observes, with its countrymen, the gigantic Patagonians, who are found at last not to exceed the stature of ordinary men.

Notwithstanding the faithful accounts of a few of the older authors, the true history of the Condor had remained involved in the obscurity created by mingling it with so many childish tales, when the celebrated Humboldt, studying it living with the sober eye of truth and philosophy, furnished a correct description, a good drawing, and an excellent memoir upon it. Since that time several stuffed as well as living specimens have reached the menageries and museums of the United States and Europe, which with the three plates published by Temminck, have rendered it familiar to all. It is but just, however, to mention that Latham had, long before Humboldt, given in his second Supplement a tolerably correct description of both sexes, with a figure of the adult male, and taken also from the identical specimens, now at Vienna, and originally brought to England by Captain Middleton from the straits of Magellan, that furnished the subjects of Temminck's plates.

The adults of both sexes, and a young female, having been tolerably well represented, it is the young male that we have preferred to figure in this work, in order thus to complete the iconography of so interesting a species. And we trust that through the exertions of our artists, our figure, which is reduced three and a half times from nature, will be found for minuteness of accuracy much superior to all, owing to the extraordinary pains taken by Mr. Lawson, who besides being furnished with a correct drawing, made repeated visits to the living bird, carefully verifying its form and dimensions in all their details.

The genus *Vultur* of Linné, now the family *Vulturini* (or *Vulturidæ*), a family first established by Duméril under the appellation of *Ptilodères*, or *Nudicolles*, though much less numerous as well as less intricate in the characters of the species than the *Falconidæ*, of which we have treated under the head of *Falco cooperii*, has nevertheless much exercised the ingenuity of ornithologists, who nearly all disagree both as to its limits and its subdivisions. With respect to the former, those recognised by us will be clear and well defined, this family being constituted of the two modern genera *Vultur* and *Cathartes*, of Illiger, which we adopt with some modifications, as will be seen hereafter. Contrary to the general practice, we discard from it the aberrant genera forming the passage to

other groups, in which we prefer arranging them. The groups towards which a direct passage is the most obvious are the family of *Rapaces*, or *Falconidæ*; and some typical *Gallinæ* and aberrant Waders. With neither the *Passeres* nor the webfooted orders (unless it may be with the Frigate-Bird), do we perceive any immediate relations. The passage to these takes place through the intervention of the three other orders, in the first of which the genera *Gypaëtus* and *Gypogeranus* approach so near them as even to have strong claims to be included in the same family, being almost exactly intermediate between *Falconidæ* and *Vulturidæ*.

Although the *Vulturidæ* are far from exhibiting the same diversity of conformation, habits, and appetites, as the numerous tribe of the Falcons, and form indeed as a whole a much more compact mass, and much less numerous in species, yet even those naturalists with Illiger at their head, who have left untouched the great genus *Falco*, have joined unanimously with the reformers in dividing that of *Vultur* into two great equivalent genera. This course, though we imitate it ourselves, we must confess to be more expedient than consistent, and it is probable that for the very reason that differential traits are less numerous and complicated in the different species, that the divisions have been more easily made and admitted. Let us analyze them. Illiger was the first to separate the species into his two genera *Cathartes* and *Vultur*: we say the first, excluding Storr and Lacépède, who long since with so much reason withdrew *Gypaëtus* from the genus, and not adverting to the artificial section made by Duméril in the year 1806, under the name of *Sarcoramphus*, for the stout-billed carunculated species indiscriminately. The characters assigned by Illiger were precise and natural, and the species he cited as examples correctly typical. But Temminck in adopting Illiger's two genera, misapplied the characters, and rendered them unnatural by declaring the *Vultur Percnopterus* a *Cathartes*, whilst it is in fact a slender-billed *Vultur*, as the Condor is a stout-billed *Cathartes*. Deceived by Temminck, we at first adopted this erroneous view, which we have finally rectified in our Observations on the second edition of the *Règne Animal* of Cuvier. In returning to what we consider the principles of Illiger, as they certainly are the dictates of reason, it so happens that this genus *Cathartes*, as is often the case, is found to correspond to a geographical division, being exclusively American, whilst that of *Vultur* is in like manner confined to the old continent. The other genera which have been proposed among the *Vulturidæ* may be considered as groups of secondary importance.

Thus the three European species* belong, according to Savigny, to

* Ruppel reckons four. He makes two of *V. fulvus*, considering the *Chassefente* of Le Vaillant a distinct species.

as many separate genera, namely *Gyps*, *Ægyptius*, and *Neophron*. The last, restricted to its proper limits, is a very well marked subgenus, which we adopt under the name of *Percnopterus* (Cuvier). It contains to my knowledge but two well ascertained species, which are the *Slender-billed Vultures of the old continent*.

The other European Vultures, with stout bills, are comprised in my subgenus *Vultur*, composed of ten well known species. But we must confess that the *Vultur cinereus* and *Vultur fulvus* differ materially, and that even their skeletons present differences that in other cases might be considered as even more than generic, while one uniform osseous structure is found to prevail throughout the numerous species of Falcons. This observation I believe has never before been made. Savigny founded his groups, which are excellent as subdivisions, on the different conformation of the nostrils, on the tongue, aculeated on its margin in *Gyps*, and not in *Ægyptius*, and on the number of tail-feathers, which is twelve in the latter, as in the American genus, and fourteen in his genus *Gyps*, as well as in *Neophron*.

Thus are the twelve species constituting my genus *Vultur* divided into two very natural subgenera, corresponding to the two genera of Vieillot, *Vultur* (comprising ten species), and *Neophron* (comprising but two), the first being subdivisible into the two minor groups of Savigny. The three might indeed be considered as co-ordinate subgenera.

As for the genus *Cathartes*, it is by no means so easy to divide, and the two groups or subgenera which we admit are perhaps artificial and blended too much together. The first, comprising the Condor, the Californian Condor, and the King Vulture, that is, the *Stout-billed American Vultures*, may be called *Sarcoramphus*, a name confined by Duméril and Cuvier to those that have caruncles or fleshy appendages on the head, but to which Vieillot very justly added *C. californianus*, calling the group *Gypagus*.

The second subgenus of *Cathartes* may be called *Catharista* (Vieillot), or the *Slender-billed American Vultures*, analogous in a parallel series, where the strength of the bill is considered, to the *Percnopteri*, but having no immediate affinity with them. The only known species are the two of Wilson's work, *Cathartes aura*, and *Cathartes iota* of my Synopsis, the former of which is a link between its own group and the preceding.

The best discriminating mark between the two principal genera of this family, one which is obvious and easily understood, is the striking character of the perviousness of the nostrils in *Cathartes*, through which light appears broadly from one side to the other, while in the *Vultures* they are separated by an internal cartilaginous partition. This will make it at once evident that it was for want of proper examination that the *Percnopterus*, merely on account of its slender bill, was ever considered

a *Cathartes*. The remaining characters being more of a relative than a positive kind, we shall not here notice them, except remarking that the hind toe being much shorter and set on higher up in the American genus, shows a greater affinity with the Gallinaceous birds, an affinity which may be traced in other features of their organization. The number of tail-feathers is fourteen in several species of *Vultures*, whilst no *Cathartes* has ever been found to have more than twelve. The principal traits, both moral and physical, are the same in all the birds composing this highly natural family.

All in fact are distinguished by having their head, which is small, and their neck, more or less naked, these parts being deprived of feathers, and merely furnished with a light down, or a few scattered hairs. Their eyes are prominent, being set even with the head, and not deep sunk in the socket, as in Eagles and other rapacious birds. They have the power of drawing down their head into a sort of collar formed by longer feathers at the base of the neck: sometimes they withdraw the whole neck and part of the head into this collar, so that the bird looks as if it had drawn its whole neck down into the body. They have a crop covered with setaceous feathers, or sometimes woolly or entirely naked, and prominent, especially after indulging their voracious appetite. Their feet are never feathered like those of an Eagle, although they have been unnaturally so represented in the plates of some authors. The tarsus is shorter than the middle toe, which is connected at its base by a membrane with the outer one. The claws are hardly retractile, comparatively short, and from these birds' habit of keeping much on the ground, instead of always perching, as the *Falconidæ*, they are neither sharp pointed nor much curved. Their wings are long and subacuminate, the third and fourth primaries being longest: they are lined beneath with a thick down of a peculiar and very soft nature.

The young birds have their head entirely covered with down, which gradually falls off as they advance in age. The female is larger than the male: their plumage varies greatly with age, and they moult but once a year. The young are easily distinguished by their downy head and neck, these parts in the adult being naked, and by the absence of the caruncles which in some species are found on the adult. These fleshy appendages are of the same nature as the wattles, &c., of Gallinaceous birds.

No part of Ornithology has been more confused in its details than that relative to the Vultures, and their synonymy, especially the European species, is almost inextricable: the old authors have heedlessly multiplied and even composed species, whilst the modern have brought together the most confused citations under those which at last they founded on the actual observation of nature. We congratulate our-

selves that the task of pointing out all these errors, from which no writer without exception appears free, does not belong to us.

Vile, gluttonous, and pre-eminently unclean, the *Vulturidæ* are the only birds of prey that keep together in flocks all the year round: as cowardly as they are indiscriminately voracious, they are too pusillanimous, notwithstanding their numbers, to attack living prey, and content themselves with the abundant supply of food which is offered by the putrid carcasses of dead animals. In fact, they appear to give the preference to these, with all their disgusting concomitants, and only resort to freshly slaughtered animals when impelled by extreme hunger. Their want of courage is denoted by their crouching attitude and the humility of their demeanor. Creatures with such dispositions did not require from nature strength or powerful weapons; nothing was needed but perfection of smelling, that they might from a distance discover their appropriate food, and this faculty they possess in an eminent degree. Their nostrils have two large external apertures, and an extensive olfactory membrane within.

Though regarded with disgust for their filthy habits, these well known birds are extremely serviceable in hot climates, by devouring all sorts of filth and impurities, and thus preserving the atmosphere from the contamination of noxious effluvia. On this account their cowardice is protected by man, who in civilized as well as savage life always looks to his own advantage, and does not disdain to make use of those for whom he cannot help feeling contempt. Besides their usefulness during life, the Vultures have an additional security in their utter uselessness when dead. In consequence of their food their body exhales a disgusting effluvium, and their flesh is so rank, stringy, and unsavory, that nothing short of absolute famine can bring any one to taste of it. No skill nor precautions in cooking can overcome its natural bad odor, which prevails over the most powerful spices. But though not eatable themselves, they excel in picking clean to the very bones the carrion they feed upon, leaving them as bare as if they had been carefully scraped. With this food they gorge themselves to such a degree as to be incapable of flight, and hardly able to move for some time, and then allow of a very close approach. In fact their indolence, filthiness, and voracity, are almost incredible.

They are birds of slow flight at all times, and raise themselves from the ground with difficulty, though when surprised and closely pursued after overfeeding, when they are almost helpless, they can lighten themselves by vomiting up their superfluous meal, sometimes to the great annoyance of the pursuer, and then at once take flight. Their sight is exceedingly keen, and is only inferior in power to their sense of smelling, which enables them to discover their peculiar food at great and incredible distances. They are dull and heavy, fond of assembling in

flocks upon trees, where they may be seen perched for hours together, sitting with their wings open as if ventilating their plumage. They walk with the body inclined forward, the wings drooping, the tail brushing the ground. When they wish to take flight, they are obliged to run a few paces, and then contract the body violently. Their flight, though slow, is protracted for a greater length of time than even perhaps that of the Eagle, though more laborious and heavy. They elevate themselves to such wonderful heights, that as they describe circle after circle, they gradually appear no larger than a swallow, next a mere speck is visible, then disappearing altogether from the limited power of human wisdom. Not, however, beyond their own, for as they hover over the country beneath, they can discover a carcass or carrion anywhere over a very wide district. In the East they are well known to follow the caravans; in Africa and South America they accompany and wait upon the hunter's steps. If a beast is flayed and abandoned, calling to each other with shrill but resounding voice, they pour down upon the carcass, and in a short time, so dexterously do they manage the operation, nothing remains but the naked skeleton. If the skin should be left on the prey they discover, an entrance is soon made through the belly, by which they extract all but the bones, which are left so well covered by the skin as hardly to show that they have been at work there. Should a sickly ox or smaller animal be accidentally exposed defenceless, or from any cause unable to resist, the Vultures fall upon and devour him without mercy in the same manner. Thus in the mountainous districts of hot countries, in which they are very numerous, the hunter who wishes to secure his game does not quit an animal he may have killed, for fear of its immediately becoming their prey. Le Vaillant, while in Africa, met with frequent losses through the rapacity of these parasites, which, immediately notified by the calling of the Crows, flocked around in multitudes, and speedily devoured large animals that he had killed, depriving him not only of his own meal, but of many a valuable specimen intended as a contribution to science. They may be frequently seen tearing a carcass in company with dogs or other ravenous quadrupeds, such associations producing no quarrel, however lean and hungry both may be. Harmony always subsists, so long as they have plenty, among creatures of dispositions so congenial. But the Eagle drives them to a distance till he is satisfied, and only permits them to enjoy the fragments of the prey he has conquered. With the same expectation of feeding upon the leavings, they attend upon the ferocious quadrupeds of the Cat kind, and may thus indicate the vicinity of these dangerous beasts. That it is cowardice which prevents them from attacking animals capable of making any defence is evident. The innate cruelty of their disposition is often manifested towards the helpless. To a deserted lamb they show no mercy, and living serpents

and whatever other minor animals they can overpower are their usual food. They are also, it is said, extremely fond of crocodiles' and alligators' eggs, to obtain which they keep watch unseen in the adjacent forest while the female is laying, and as soon as she is gone descend, and removing the sand where they are buried, greedily devour them.

The Vultures are mostly found in warm climates, although by no means afraid of cold, as they prefer the vicinity of lofty mountains; those which inhabit in the north retiring southward in winter in the northern hemisphere. Their favorite abodes are rocks and caverns among broken precipices, where they retire to sleep and to digest their meals when overfed, which happens as often as an opportunity offers: in such retreats they may be often observed in great numbers together, enjoying the exhilarating air of the morning. Their nest is made with hardly any preparation on inaccessible cliffs or other places where they can seldom be found by man. They reside generally where they breed, seldom coming down into the plains, except when frost and snow have driven all living things from the heights: they are then compelled to brave danger in pursuit of food. The Vultures generally lay but two eggs at a time, sometimes three or four, especially the North American species; and are faithfully monogamous. In their mode of supplying their young with food, there is a striking difference between them and other rapacious birds. The latter place before their progeny the quivering limbs of their prey, that they may learn to employ their beak and talons. The Vultures, whose claws are not fitted for seizing and bearing off their spoils, disgorge into the mouth of their young the contents of their crop, from the nature of which this operation, so interesting when performed by a dove or a canary, becomes in this case one of the most disgusting imaginable.

According to Belon, the Latin name *Vultur* is but a contraction of *volatu tardo*: the name *Cathartes* imagined by Illiger, means in Greek, purger. *Condor* is a corruption of *Cuntur*, the true appellation of our species in the *Qquichua* language, derived, according to Humboldt, from the verb *cunturi*, to smell.

Although the largest of American Vultures, the Condor is inferior in size to several of those which inhabit the old continent, and even to the large Golden Vulture of eastern Europe. Both sexes are very nearly of equal size; but the superiority, if any, is found as usual upon the side of the female; so that the common statement of writers, that this sex is of less size, has no foundation in fact.

The adult male is always more than three feet long, and measures nine feet from tip to tip of the extended wings. Some gigantic individuals are met with four feet long and twelve in extent. The bill is dark brown color at the base, somewhat of a lemon white at tip. The tongue is entire, cartilaginous, membranous, ovate-cuneate, concave

beneath, serrated with spines on the margin. A longitudinal compressed caruncle, or firm fleshy crest extends from the top of the head to the front, and to the brown portion of the bill. It is rounded before and behind, a sinus on the upper border, the lower free for a short space at each extremity, papillous, or strongly wrinkled, and, as well as the cere, of a bluish color. The nostrils are oval-linear, and with no hairs surrounding them. The skin of the neck and crop is bare, with the exception of some scattered short and rigid hairs; it is reddish, and has two short pear-shaped processes depending from it. Two inter-twisted fleshy strings arise from the bill, pass over the auditory region, and descend along the sides of the neck: these fleshy cords acquire by desiccation, in stuffed specimens, the appearance of a series of tubercles or wrinkled protuberances: a double string of a similar substance passes above the eye, which is small, much lengthened, and lateral, being set far back from the bill: the irides are of an olive gray. Their cavernous structure enables the bird to swell out all these appendages at pleasure, like the Turkey: the crest, however, must be excepted, which is very dissimilar to the flaccid, pendulous cone of the Turkey, and incapable of dilatation. The orifice of the ear is very large, subrounded, but hidden under the folds of the temporal membrane. The occiput exhibits a few short brown bristles. Around the lower part of the neck above is a beautiful half collar of silky and very soft down as white as snow, which separates the naked parts from the feathered body. In front this collar is interrupted, and the neck is bare down to the black plumage: this gap in the collar can however only be discovered on close inspection. The whole plumage is of a very deep blue black; the tips of the secondaries and the greater wing-coverts on the outer web only being of a whitish pearl-gray: the first seven outer quills are wholly black, twenty-seven being white on their outer web: the third quill is the longest. The wings are three feet nine inches long, reaching nearly to the tip of the tail, but not passing beyond, as in the closely related species the Californian Condor. The tail is very slightly rounded at the end, rather short in proportion to the bird, measuring thirteen inches. The feet are bluish: the toes connected at their base by a membrane.

The female is entirely destitute of crest or other appendages. The skin which covers the head is uniformly blackish, like the plumage, in which there is only a little cinereous on the wings: in this sex the wing-coverts, which in the male are white at tip from the middle, are of a blackish gray. This circumstance is very conclusive, inasmuch as the white forms a very conspicuous mark on the wings of the male, which has occasioned it to be said that some Condors had a white back.

For several months during the early part of their life, the young are covered with very soft whitish down, curled, and resembling that of young owls: this down is so loose as to make the bird appear a large

shapeless mass. Even at two years old the Condor is by no means black, but of an obscure fulvous brown, and both sexes are then destitute of the white collar.

The following description and admeasurements are from a pair of young living birds, said to be nine months old, caught on the Peruvian Andes. One of these (which are precisely alike) was captured by an Indian, who discovering two in the nest, ran up at great speed, fearing to be overtaken by the old ones, and succeeded in securing it by putting it in his pocket, not larger than a full grown chicken. I have carefully compared this with, and found perfectly similar to it, a bill and a quill-feather brought from the Columbia river by Lewis and Clark and preserved in the Philadelphia Museum. These remains prove the existence of the Condor within the United States, and sufficiently authorize its introduction into this work.

Length three feet nine inches. Breadth nine feet. Bill to the corner of the mouth two inches six-eighths; to the cere one inch and a half, to the down three and a quarter inches. Bill curved and hooked, with several flexures; upper mandible passing over the lower, which is rounded and scalloped: nostrils pervious, rounded-elliptical, cut in the cere. Bill outside, cere, and all the surrounding naked parts black; ears without any covering, the skin rugose: inside of the bill yellowish white, margined with black, palate furnished with a fleshy skin, having the appearance of a row of teeth in the middle, then of a hard ridge looking like a file, and two marginal rows: tongue broadly concave, and serrated on the turned up edges with sharp pointed cutting serratures: an elevation of the skin indicating the frontal caruncle; the place where the bristles begin to appear is also indicated by an elevation. Eye full and rounded: iris blackish: membrane of the throat very dilatable: head and neck covered by a thick silky down of a brownish black color; on the front more dark and bristly; general color dark brown, each feather having a banded appearance, tipped with more or less of umber; quill and tail-feathers black, with a gloss of blue. The number of tail-feathers is twelve, the closed wings not reaching beyond, though very nearly to the tip. Feet black: acrotarsus beautifully colligate, acrodactylus scutellated: the whole leg measures one foot in length, of which the tarsus is five and a quarter inches, and the middle toe and nail six, the nail being one and a half: lateral toes connected with the middle as far as the first joint by a membrane; the inner two and a half inches long without the nail, which is one and a half; the outer with the nail a quarter of an inch shorter; hind toe articulated inside, bearing on the ground only with the point of the nail, an inch and a half long, the nail one inch more, and much incurved: sole of the foot granulated: fat part of the heel large and rough. The feet have been generally described as white or whitish, owing to their being commonly stained

with the excrements, which the bird throws much forward, but they are in fact of a fine blue horn color when washed clean, and these birds seemed to be fond of washing themselves.

The Condor is diffused over the continent of South America from the Straits of Magellan, extending its range also to Mexico and California, and the western territory of the United States beyond the Rocky Mountains. It was not seen by Lewis and Clark until they had passed the great falls of the Columbia, and it is by no means common or numerous anywhere in the northern parts of America, those individuals that have been observed here appear to have been stragglers from their native country, which is no doubt South America. It might even be limited to the great chain of the Andes, especially their most elevated ranges, being plentiful in Quito, Peru, New Granada, and Antioquia, and much more rare where they are less lofty, the Condor inhabiting pretty nearly the same altitude with the *Cinchonæ* and other subalpine plants. It is moreover, according to the observations of Humboldt, the invariable companion of the Guanaco for an extent of nearly three thousand miles of coast, after which this animal is no longer seen, but the Condor continues to be met with much beyond this, as if quite indifferent to climate, or because it can regulate it by varying its elevation with the change of latitude. In the eastern or even southern United States a Condor has never been seen, though the King Vulture of South America has been occasionally observed. The chief abode of the Condor is indeed on the highest summits of the Andes, some of which are covered with perpetual snow, and is fixed by Humboldt at between three thousand one hundred and four thousand nine hundred metres. Every time, says he, that I have been herborizing near the limits of perpetual snow, we were sure to be surrounded by Condors. These mountains and the forests that clothe their sides are the Condor's home, and from these their excursions are extended over the whole neighborhood to the very sea, from which they may be often seen hovering at prodigious heights and describing vast circles, but always ready to lower themselves by degrees whenever they espy a chance of satisfying their voracious appetite. They are only known, however, to descend towards the seashore during the rainy season, corresponding to our winter, when they come in search of food and warmer weather: they then obtain the bodies of large fishes or marine animals, such as Whales or Seals, and the prospect of finding these is their principal attraction to the shore: they arrive here at evening, and as a journey of several hundred miles requires for them but little time or exertion, as soon as their meal is digested, and they begin to feel lighter, they return to their favorite rocks, often during the following day. They have sometimes been killed at sea, floating on the dead body of a Whale which they were tearing for food. They exhibit the common propensity of their tribe

for carrion, and nothing but the urgent stimulus of hunger can bring them to attack living creatures, and then their cowardice will not allow them to meddle with any but the feeble or diseased which are incapable of defending themselves. They will also combine together to overpower their prey, if they see the least danger of resistance. A single Cougar, or even a courageous bird, will drive from their prey a whole troop of Condors, which however seldom amounts to more than five or six, as they do not collect in such numerous bodies as their fellow Vultures. When feeding on a Cow, a Guanaco, or a Paco, they first pick out the eyes, then tear away and devour the tongue, and next the entrails, at last picking the flesh from the bones. Smaller animals they generally swallow whole. Guided by their amazingly acute faculty of smell, the Condor will arrive, performing circular evolutions, from the highest regions of the atmosphere upon a carrion, and often, trusting to their powers of digestion, they swallow bones and flesh together. The Indians, too indolent to keep clean their butchering or similar places, and often neglecting to bury their dead with sufficient carefulness, have a great veneration for this bird and others of its kind, to which they trust to rid them of such nuisances. The regard with which they are treated makes them so familiar, that Humboldt relates his being able to approach within two yards of a troop of Condors before they retreated, though he had other persons in his company. When full-fed the Condor will remain motionless on a projecting rock, and has then a sinister appearance; if on the ground, however, he allows of a close chase before having recourse to his ample wings, hopping along before his pursuer. When on the contrary he is pressed by hunger and light from emptiness, he will soar to extreme heights in the atmosphere, especially in clear weather, whence he can discover prey at any possible distance. They lay in the most inaccessible parts of the Andes, near the limit of perpetual snow, on the most broken and terrific precipices, where no other living creature can dwell. Nests have been found at the extraordinary elevation of fifteen thousand feet. Their eggs are usually laid on the naked rock, or with very little preparation, and never on trees, which they even avoid alighting on, unlike their congeners in this respect, and always on rocks or the ground, the straightness of their nails making this easier for them. The eggs are white, and three or four inches long. The young are entirely covered with very soft whitish down, and the mother is said to provide for them during a long time. The facts relative to their propagation are not, however, sufficiently ascertained, for how are we to verify assertions relating to operations performed so much beyond the reach of ordinary observation.

Authors describe various modes that have been resorted to for destroying the Condors in their native countries, where they sometimes become a nuisance; such as poisoning carrion, seizing them by the legs by

hiding under the skin of a calf, and by building narrow enclosures in which is placed putrid flesh, when the birds flying down and feeding greedily, are unable to take wing again for want of space to get a start by running. But we scarcely see any advantage in such stratagems, since they may be caught with running knots while disabled by repletion, or even, as it is reported, knocked down with clubs; and in any case we are at a loss to reconcile such persecutions with the protection so wisely granted them both by civilized and savage man.

In captivity, the Condor is easily tamed if taken young, and does not refuse any kind of animal food whatever, nor do they appear to dread or suffer in the least from the extreme changes of the climate in Europe and the north-eastern parts of America. But it is almost impossible to keep the adults, which are always exceedingly wild and mischievous. They are incredibly tenacious of life: the bones are so hard as to resist a musket-ball, to which also the thick down of their plumage is impenetrable. They can resist strangulation for hours, even when hanged and hard pulled by the feet. A remarkable fact is that in domesticity they will not refuse water, drinking it in a very peculiar manner, by holding their lower mandible in it for some time, and using it as a spoon to throw the liquid into their throat. The individual represented in our plate was remarkable for playfulness and a kind of stupid good nature. During Mr. Lawson's almost daily visits for the purpose of measuring and examining accurately every part for his engraving, he became so familiar and well acquainted that he would pull the paper out of the artist's hands, or take the spectacles from his nose, so that Mr. Lawson, seduced by these blandishments, and forgetting its character in other respects, does not hesitate to declare the Condors the gentlest birds he ever had to deal with.

IBIS FALCINELLUS.

GLOSSY IBIS.

[Plate XXIII. Fig. 1.]

Tantalus falcinellus, LINN. *Syst.* I., p. 241, Sp. 2. GMEL. *Syst.* I., p. 648, Sp. 2. LATH. *Ind.* II., p. 707, Sp. 14. BRUNN. *Orn.* Sp. 167. SCOP. *Ann.* I., Sp. 131. KRAM. *Austr.* p. 350. BOROWSKY, III., p. 72. *Faun. Helv.* RETZ, *Faun. Suec.* p. 171, Sp. 135. NILSS., *Orn. Suec.* II., p. 43, Sp. 160.—*Ibis falcinellus*, VIEILL. *Nouv. Dict.* ID. *Enc. Mèt. Orn.* TEMM. *Man. Orn.* II., p. 598. SAVI, *Orn. Tosc.* II., p. 327. NOB. *Obs. Nom. Wils. Orn.* note to No. 199. ID. *Syn. Birds U. S.* Sp. 241. ID. *Cat.* ID. *Spec. Comp.* WAGLER, *Syst. Av. Ibis*, Sp. 1. ROUX, *Orn. Prov.* Pl. 309. GOLDFUSS, *Nat. Atlas*, Pl. 95.—*Ibis sacra*, TEMM. *Man. Orn.*

ed. 1, p. 385.—*Tantalus igneus*, GMEL. *Syst.* I., p. 649, Sp. 9. LATH. *Ind.* II., p. 708, Sp. 16, very old individual.—*Tantalus viridis*, GMEL. *Syst.* I., p. 648, Sp. 8. LATH. *Ind.* II., p. 707, Sp. 15. MONTAGU, in *Linn. Trans.* IX., p. 198.—*Tantalus mexicanus*? ORD, in *Journ. Ac. Philad.* I., p. 53 (and perhaps of other authors, in that case the *Acalot* of Ray and Buffon, and its derivatives.*)—*Numenius castaneus*, BRISS. *Orn.* V., p. 329, Sp. 5. *Id.* 8vo. II., p. 294 (old indiv.)—*Numenius viridis*, BRISS. *Orn.* V., p. 326, Sp. 4, t. 27, fig. 2. *Id.* 8vo. II., p. 293, two years old.—*Numenius viridis*, S. G. GMEL. *Reis.* I., p. 167. *Id.* in *Nov. Comm. Petrop.* XV., p. 462, t. 19, young.—*Numenius igneus*, S. G. GMEL. *Reise.* I., p. 166. *Id.* in *Nov. Comm. Petrop.* XV., p. 460, t. 13, old specimen.—*Fringa autumnalis*, HASSELQUIST, *Iter Palest.* II., p. 306, Sp. 26, 27, two years old.—*Falcinellus*, GESSNER, *Av.* p. 220.—*Falcata*, GESSNER, *Id.* *Av.* p. 116, with a bad figure.—*Falcinellus*, sive *Avis falcata*, ALDROV. *Av.* III., pp. 422 and 423. JONSTON, *Av.* p. 105. CHARLETON, *Excit.* p. 110, Sp. 7. *Id.* *Onomat.* p. 103, Sp. 7.—*Falcinellus Gesneri & Aldrovandi*, WILLOUGHBY, *Orn.* p. 218.—*Arcuata minor*, &c., MARSIGLI, *Danub.* V., p. 42, tab. 18, adult, 20, young.—*Numenius sub-aquilus*, KLEIN, *Av.* p. 110, Sp. 8.—*Falcinellus*, or *Sithebill*, RAY, *Av.* p. 103, Sp. 3. WILL. *Orn.* p. 295, tab. 54. *Id.* *Engl.* p. 295, tab. 54, fig. 4.—*Le Fauconneau*! *Falcinellus*, SALERNE, *Orn.* p. 322.—*Courlis vert*, BUFF. *Ois.* VIII., p. 29 (ed. 1783), VIII., p. 379, *Vers. Germ.* OTTO, XXII., p. 170, fig.—*Courlis d'Italie*, BUFF. *Pl. Enl.* 819, adult Male.—*Courlis brillant*, SONNINI, *Buff. Ois.* XXII., p. 238, old Female.—*Ibis vert*, CUV. *Règn. Anim.* I., p. 485. *Id.* 2d ed. I., p. 520. ROUX, loco citato. SAVIGNY, *Egypt. Ois.* tab. VII., left hand fig. two years old.—*Ibis noir*, SAVIGNY, *Hist. Nat. et Mythol. de l'Ibis*, p. 36, tab. 4.—*Ibis sacré*, TEMM. *Man. Orn.* first ed. but not of Cuvier.—*Ibis falcinelle*, of most French authors and of the Dictionaries.—*Chiurlo*, &c., *Storia degli Uccelli*, IX., p. 439, old Male.—*Ibi falcinello*, RANZANI, *Elem.* III., pt. VIII., p. 185, Sp. 3.—*Mignattajo*, SAVI, loco citato.—*Bay Ibis*, PENN. *Arct. Zool.* II., p. 460, A. LATH. *Syn.* III., pt. 1, p. 113, Sp. 13. *Id.* *Suppl.* p. 67. *Germ. trans.* by BECHST. V., p. 67, tab. 81, young. LATH. *Gen. Hist.* IX., p. 152, Sp. 15. *Brit. Miscell.* tab. 18. MONTAG. *Orn. Dict. Suppl.*—*Green Ibis*, LATH. *Syn.* III., pt. 1, p. 114, Sp. 13, young. *Linnean Trans.* IX., p. 198. MONTAG. *Orn. Dict. Suppl.* LATH. *Gen. Hist.* IX., p. 154, Sp. 18.—*Glossy Ibis*, LATH. *Syn.* III., pt. 1, p. 115, Sp. 14, old specimen. *Id.* *Gen. Hist.* IX., p. 154, Sp. 17. *Brit. Zool.* 1812, II., p. 30. MONTAG. *Orn. Dict. Suppl.*—*Brazilian Curlew*, *Nat. Miscell.* tab. 705?—*Sichelsnabliker Nimmerzatt*, BECHST. *Nat. Deutschl.* IV., p. 116. MEYER & WOLF, *Tasch. Deutschl. Vog.* II., p. 352. NAUM. *Vog. Nacht.* t. 28, adult Male.—*Braune Ibis*, BREHM. *Lehrb. Eur. Vog.* II., p. 528.

THOUGH it may appear very extraordinary, it is not less true, that one of the two species of Ibis worshipped by the ancient Egyptians, their Black Ibis, has a claim to be included in our work as being an

* The following are the indications of that obscure species, the Mexican Ibis:—*Tantalus mexicanus*, GMEL. *Syst.* I., p. 652, Sp. 18. LATH. *Ind.* II., p. 704, Sp. 4.—*Ibis mexicana*, of later compilers. *Ibis acalot* of French compilers and Dictionaries.—*Numenius mexicanus varius*, BRISS. V., p. 335, Sp. 7. *Id.* 8vo. II., p. 295.—*Acacoloth*, RAY, *Syn.* p. 104, Sp. 5. WILL. p. 218. *Id.* *Engl.* p. 296.—*Acalot*, BUFF. *Ois.* VIII., p. 45.—*Mexican Ibis*, LATH. *Syn.* III., pt. 1, p. 108, Sp. 5. *Id.* *Gen. Hist.* IX., p. 146, Sp. 5.

This bird is said to inhabit Mexico: it will not be superfluous to remark, that the proportions assigned to it are much larger than those of our *Ibis falcinellus*.

occasional visitant of the eastern shores of these states. This fact, which we would be among the first to disbelieve were we to read of it in the eloquent pages of Buffon, is authenticated by the specimen here figured, which moreover is not a solitary instance of the kind. Thus, instead of being limited to a peculiar district of Egypt, as stated by Pliny, Solinus, and others, and reiterated by the host of compilers, this celebrated bird is only limited in its irregular wanderings by the boundaries of the globe itself.

The credit of having added this beautiful species to the Fauna of the United States is due to Mr. Ord, the well known friend and biographer of Wilson, who several years ago gave a good history and minute description of it in the Journal of the Academy of Philadelphia, under the name of *Tantalus mexicanus*? His excellent memoir would have been sufficient to establish its identity with the species found so extensively in the old world, even if the specimen itself, carefully preserved in the Philadelphia Museum, did not place this beyond the possibility of doubt.

Among the natural productions which their priests had through policy taught the superstitious Egyptians to worship, the Ibis is one of the most celebrated for the adoration it received, though for what reason it is not easy to understand. The dread of noxious animals, formidable on account of their strength or numbers, may induce feelings of respect and veneration, or they may be felt still more naturally for others that render us services by destroying those that are injurious, or ridding man of anything that interferes with his enjoyments, or by ministering to his wants. We can conceive how a sense of gratitude should cause these to be held sacred, in order to insure their multiplication, and that this sentiment should even be carried to adoration. But why grant such honors to the wild, harmless, and apparently useless Ibis? It is perfectly well proved at this day that the Ibis is as useless as it is inoffensive, and if the Egyptian priests who worshipped the Deity in his creatures declared it pre-eminently sacred; if while the adoration of other similar divinities was confined to peculiar districts, that of the Ibis was universal over Egypt; if it was said, that should the gods take mortal forms it would be under that of the Ibis that they would prefer to appear on earth, and so many things of the kind, we can assign no other reason than the fact of their appearing with the periodical rains, coming down from the upper country when the freshening Etherian winds began to blow, when they were driven in search of a better climate by the very rains that produce the inundation of the Nile, doing Egypt such signal benefit. The Ibis, whose appearance accompanied these blessings, would disappear also at the season when the south desert winds from the internal parts of Africa brought desolation in their train, which could be averted only by the periodical return of the

circumstances represented by the Ibis, which seemed like Providence to control them, and was therefore declared the real Providence of Egypt, though merely the concomitant, and by no means the cause of those blessings, by which they profited in common with all. It thus became so identified with the country as to be used as its hieroglyphic representative, and was said to be so attached to its native land that it would die of grief if carried out of it, and it was on account of its fidelity to the soil that it was honored as its emblem. So good a citizen could not of course from selfish motives migrate periodically, and its absence must have been for its country's sake! Hence the ridiculous tale current throughout antiquity, and strengthened by the testimony of Herodotus, Ælian, Solinus, Marcellinus, copied by Cicero (who went as far as to assign to the Ibis proper instruments for the purpose, such as a strong bill), by Pliny and others, and credited in our days to a certain extent by Buffon, who thus accounted for the divine honors it received. I allude to the story of their attacking and destroying periodically on the limits of civilization immense flocks of small but most pernicious winged serpents generated by the fermentation of marshes, which without the generous protection afforded by the Ibis would cause the utter ruin of Egypt.

Still more unaccountable is it that naturalists and philosophers should have been so long in finding out the true meaning of this oriental figure. How could the Ibis with its feeble bill, whose pressure can be hardly felt on the most delicate finger, and which is only calculated for probing in the mud after small mollusca and worms in places just left bare after an inundation, how could such a weapon cut to pieces and destroy so many monsters if they had existed? How could these learned men (notwithstanding that Herodotus relates his seeing heaps of their bones or spines) believe for an instant in the existence of these winged serpents; and why try to reconcile truth with a barefaced falsehood, or with expressions manifestly figurative? We are aware that some modern translators of Herodotus, by forcing the Greek original to meet their own views, have attempted to write instead of winged serpents, the word *locustæ*, which insects are known to come in vast swarms, causing periodically great devastation even in some parts of Europe. But nothing is gained by this plausible and apparently learned supposition, since the conformation of the Ibis would prevent it from making any havoc among these enemies, whose being winged would not moreover save their author from the difficulty, locusts having certainly neither bones nor spines. The figure intended is still plainer, and Savigny, who first pointed it out, could in my opinion have saved himself many a page of his classical dissertation, and without any recourse to the idea of the *Cerastes*, for to me it is evident that by the winged serpents were originally signified the exhalations from the marshes, so noxious

in Egypt when brought by the south-easterly or *Typhonian* winds against which the Ibis was observed to direct its flight and to conquer, aided, it is true, by the powerful sweeping *Etherian* winds.

Be this as it may, no animal was more venerated by the Egyptians than the Ibis: there was none whose history was more encumbered with fictions. Notwithstanding the ridicule thrown upon it by Aristotle, the Ibis was believed to be so essentially pure and chaste, as to be incapable of any immodest act. The priests declared the water to be only fit for ablutions and religious purposes when the Ibis had deigned to drink of it. Yet by some unaccountable contradiction Roman authors made of it an unclean animal. It is needless here to repeat all the fanciful and extravagant things said of the Ibis among a people whose credulity, superstition, and wildness of imagination knew no bounds. It was represented by the priests as a present from Osiris to Isis, or the fertilized soil, and as such was carefully brought up in the temples, those first menageries of antiquity. It was forbidden under pain of severest punishment to kill or injure in the least these sacred beings, and their dead bodies even were carefully preserved in order to secure eternity for them. It is well known with what art the Egyptians endeavored to eternize death, notwithstanding the manifest will of nature that we should be rid of its dreaded images, and that many animals held sacred shared with man himself in these posthumous honors. In the Soccora plains many wells containing mummies are rightly called birds' wells, on account of the embalmed birds, generally of the Ibis kind, which they contain. These are found enclosed in long jars of baked earth, whose opening is hermetically closed with cement, so that it is necessary to break them to extract the mummy. Buffon obtained several of these jars, in each of which there was a kind of doll enveloped in wrappers of linen cloth, and when these were removed the body fell in a blackish dust, but the bones and feathers retained more consistence, and could be readily recognised. Dr. Pearson, who received some of these jars from Thebes, gives a more minute description, as does also Savigny. E. Geoffroy, and Grobert, also brought from Egypt some very perfect embalmed Ibises, and I have availed myself of every opportunity to examine such as were within my reach, and especially those preserved in the Kircherian Museum at Rome, one of which, containing a most perfect skeleton, is now before me.

By far the greater part of the jars contain nothing but a kind of fat black earth, resulting from the decomposition of the entrails and other soft parts buried exclusively in them. Each bird is enclosed in a small earthen jar with a cover used for the purpose. The body is wrapped up in several layers of cloth, about three inches broad, saturated with some resinous substance, besides a quantity of other layers fixed in their place by a great many turns of thread crossed with much

art, so much indeed that it is by no means easy to lay the parts bare for inspection without injuring them. Space appears to have been considered of much value in preparing these mummies, and every means was used to secure them within the least possible compass, by bending and folding the limbs one upon another. The neck is twisted so as to bring the crown of the head on the body, a little to the left of the stomach, the curved bill with its convexity upward is placed between the feet, thus reaching beyond the extremity of the tail: each foot with its four claws turned forward, one bent upward and elevated on each side of the head; the wings brought close to the sides, much in their natural position. In separating them to discover the interior, nothing of the viscera nor any of the soft parts remain, the bones exhibit no traces of muscle or tendon adhering to them, and the joints separate at the least touch. Most of these mummies, it must be admitted, are not of the species of which we are writing (and which also is but seldom represented hieroglyphically), but of the white kind, which was more venerated, the *Ibis religiosa* of Cuvier; and some authors even deny that a well authenticated Black Ibis has ever been unwrapped. Complete birds even of the white species are extremely rare. Cuvier obtained the entire skeleton from an embalmed subject, and Dr. Pearson was so fortunate as to discover the perfect bird in two brought among other mummies from Thebes. They have been accurately described in the scientific journals of England under the name of true Egyptian or Theban Ibis. The Egyptian Ibis of Latham is however nothing but the *Tantalus Ibis*.

Buffon by means of his mummies was enabled to verify the real size of the Ibis, and as he found two bills entire among those he examined, he settled the genus to which the sacred bird belonged, and stated very correctly that its place was between the Stork and the Curlew, where later naturalists have arranged it. But it is to be regretted that a preconceived opinion should have so blinded him that he could not see the furrows of the upper mandible, which do exist in a very eminent degree, as I have personally ascertained, notwithstanding his statements to the contrary, in making which he must have had before him the bill of the *Tantalus*, which he mistook for the Ibis. These furrows it is of the more consequence to note, inasmuch as they form the principal discrimination between the genera *Tantalus* and *Ibis*, and serve to put an end to a controversy to which the sacred Ibis has given rise.

Although every traveller in Egypt has used his exertions to collect all the facts relative to a bird which plays such a part in the sacred legends of that country, a bird associated with so many of the wonders of antiquity, yet it was for a long period a question among naturalists and scholars to what species the name of Ibis was properly to be applied. As, however, contrary to the general practice of the ancients,

the description of the bird did exist, and even a representation, tolerably good, among their sculptured hieroglyphics, it could only be because it was supposed that divine honors must have been the reward of signal services that any dispute could ever arise on the subject. A sacred bird must of course, it was concluded, be a great destroyer of venomous animals, which the timid Ibis *is not*; hence the misapplication of the name. To such an extent did this idea prevail, and predominate over all others, that Buffon, who could only feel contempt for the idle tales related of the Ibis, so involved their true history as to attribute to them the most violent antipathy to serpents, on which he supposed they fed, and destroyed them by all possible means, and assigns to them the habits of a species of Vulture. Others maintained, notwithstanding its long and falcate bill, that it was in fact a Vulture, which was indeed the most natural conclusion after they had begun by giving it such habits. Cuvier himself, who cleared up and rectified everything else in relation to the Ibis, because he found in a mummy some skins and scales of serpents, most probably embalmed as companions, which was frequently done with different kinds of animals, declared it a true snake-eater.

Two different kinds of Ibis were known to the ancients, and looked upon by the Egyptians as sacred; the White, common throughout Egypt, and the Black, which was said to be found only in a peculiar district. It is the latter of which we are now to treat, a bird long known to, but not recognised by naturalists; whilst the white was only rediscovered, in later times, by the courageous Abyssinian traveller Bruce, who first among the moderns obtained correct notions respecting it. Bruce's Ibis has been since proclaimed by Cuvier and Savigny the true Ibis, in place of the *Tantalus Ibis* of Linné, which he so called for want of knowing the real Ibis, believing this to be it, though but very seldom even found in Egypt. This opinion, which though more plausible than that which it superseded, was still erroneous, originated with Perrault, and was adopted and maintained by Buffon, Brisson, Linné, Blumenbach, and all others until lately, when Colonel Grobert returning from Egypt presented Fourcroy with mummies which enabled Cuvier first to perceive that the Ibis was not a *Tantalus*, but a true *Ibis*, which genus he did not then distinguish from *Numenius*. Savigny in the year 1806 by an admirable work on the Ibis, put the question at rest.

The sacred White Ibis, though not in reality peculiar to Egypt, where it is seen only at certain seasons of the year, does not however migrate to far distant countries: it is spread throughout Africa, and species extremely similar to it are found in India and Ceylon. But it is not our province to treat of it, and it has already formed the subject of several volumes.

We have already remarked that Buffon justly indicated the natural relations of the Ibis by stating that it was intermediate between the Stork and the Curlew. What he said of the species we shall extend to the three families to which the three birds belong in our system. In the transition from one group to another Nature seems often to make the passage by insensible intermediate steps, and it sometimes happens that the species placed on the limits of two groups belong decidedly to one or the other, and even when it may be impossible to say to which they ought to be referred, we still cannot admit them as types of an intermediate group. At other times the intermediate species form a small group by themselves, and although a portion of such a connecting group shows great affinity to that which follows it, while another portion is equally connected with a preceding group, yet the two parts are still more related between themselves. So it is with the family of *Tantalidæ* or *Falcati*, formed from the genus *Tantalus* of Linné, and composed of but two very natural genera, *Tantalus* and *Ibis*, the former of which retains a resemblance to the *Ardeidæ* or *Cultriostres*, while the latter claims a stronger affinity with the *Scolopaciidæ* or *Limicolæ*. Nothing, in our opinion, shows more the propriety and even necessity of distinguishing this small intermediate group from those which touch upon it.

Buffon and Brisson, who used as a character the artificial one of the curved bill, did not separate the *Tantalidæ* from the Curlews, which are real *Scolopaciidæ*, though somewhat allied to *Ibis*. Linné, whose philosophical tact was seldom at fault, and who crowded all the *Scolopaciidæ* into his arbitrary genera *Tringa* and *Scolopax*, did not however confound the two families, for he employed as a distinguishing mark of his genus *Tantalus* the important character of the naked face. He was followed by Latham and others. The *Ibis* of Lacépède is equivalent to the *Tantalus* of Linné, though by giving the genus this name (which Latham had done in English), he obtained the credit of being the founder of the genus *Ibis*, but unjustly, as he included in it all the smooth and thick-billed *Tantali*. To Illiger belongs the merit of having first made the distinction between them, and Cuvier, Vieillot, Temminck, and most others have followed his course, though some German authors call the restricted genus *Falcinellus*. The present family was instituted by Illiger under the name of *Falcati*. Vieillot and Ranzani adopted it under the name of *Falcirostris*. Boie called it "of the *Ides*," but Cuvier and Latreille placed the two genera of which it is composed within the respective limits of the two families which they connect, and which they called *Cultriostres* and *Longirostris*. Although Mr. Vigors and the modern English school have not adopted it (probably because it interfered with their whimsical quinary arrangement), they do not dismember it, but force the whole into their family *Ardeidæ*,

with which even *Ibis* has, it is true, more real, though less apparent affinity than with *Scolopaciæ*: as for *Tantalus* there could be no doubt. Goldfuss has done the same.

The *Tantalidæ* all have a very long bill, stout at the base, subulate, falcate, and cylindrical at tip, the edges bent in and sharp. Their corneo-membranous tongue is remarkably short, flat, cuneate-acuminate, entire, posteriorly furcate-emarginate. Their face is destitute of feathers, and their throat somewhat dilatable into a pouch. Their neck is long. Their feet long, equilibrate, and always four-toed: the naked space of the tibia considerable: the toes long, bordered with a narrow membrane connecting the fore toes at base. The hind toe is articulated with the tarsus low down, and is half as long as the middle, bearing with its whole length on the ground. The wings are moderate, obtuse, tubercular. The tail short, composed of but twelve feathers. The falcate shape of the bill will at once distinguish them from any of the *Ardeidæ*; and the nakedness of the face from the *Scolopaciæ*.

The *Ibis* may be known from the true *Tantalus* by having a comparatively slender bill, depressed and curved from the base; instead of being very stout at the base, compressed, and curved only towards the tip. In *Ibis*, the upper mandible is deeply furrowed its whole length, and entire. In *Tantalus* it is not furrowed, and is notched. The nostrils are pervious and wide open in the latter; half closed by a membrane in the former. The head is warty and entirely bald in *Tantalus*, while in *Ibis* the nakedness generally extends over the face and throat merely.

Tantalus only contains four species, one in each of the five divisions of the globe, Europe excepted. In *Ibis* there are about twenty well ascertained species, three inhabiting the United States, of which the present is the only one that ever visits Europe. In South America are found several beautiful species. The true Ibises may be subdivided into two secondary groups; those with the tarsi reticulated, and those which like the present species have them scutellated. The former have shorter feet, and by their stouter bill, and the more extended nudity of the face, approach nearest to the *Tantali*. Temminck wishes to divide them into the sections *Sylvains* and *Riverains*. Dr. Wagler distributes them into three sections, which he calls *Ibides lepopodiæ*, *Ibides aspidolepopodiæ*, and *Ibides aspidopodiæ*! this last section being formed for our species alone, principally on account of its having the middle toe-nail pectinated.

In the Ibises, as in their kindred *Tantali*, the females are considerably smaller than the males, but perfectly like them in colors. The young differ greatly from the adults until the third year. Their moult is annual and regular.

They are dull and stupid birds, fearless and allowing of a very close

approach, so that they are easily shot. They frequent inundated places, the shores of lakes and rivers, and particularly grounds just left bare by floods, where their favorite food abounds. They live in flocks, but when once paired the sexes remain united for life. They feed on insects, worms, mollusca, and the Ibises also on vegetable substances: they search their food in mud, and often throw it up with their bill, catching it as it descends in their throat. Shells, even of considerable size, they swallow entire, trusting to the muscular power of their stomach to crush them, for which their bill is too weak. The *Tantali* are also well known to use their powerful bills against fishes and reptiles, but the true Ibis never, notwithstanding the popular belief to the contrary. When satisfied with feeding, they retire for digestion to the highest trees, where they stand in an erect posture, resting their heavy bill upon their breast. The *Ibides* more than the *Tantali* migrate periodically and to vast distances. The habit of resting upon trees, as indeed the whole animal economy (a thing never sufficiently considered in the formation of natural families) of the Ibis separate them from the *Scolopacidae*. They are monogamous; build on high trees, both sexes assisting in the construction of the nest: the female lays two or three whitish eggs, which she alone incubates, but is then fed by the male, and both feed the young, which require for a long period the care of the parents, and do not leave the nest till able to flutter. They walk slowly, often sinking deeply in the mud while watching for prey: their gait is measured, and they never run rapidly. Their flight is heavy, but high and protracted. Their voice is loud and monotonous. In domesticity, like many other birds, they become omnivorous. As to anatomical conformation, the Ibises resemble the genera of *Scolopacidae*: a very thick muscular stomach occupies nearly two-thirds of the anterior capacity of the abdomen: the swelling of the œsophagus at its origin is considerable and very glandulous: the intestines form an elliptic mass, composed of a double spiral, besides first a turn bordering the gizzard; they measure upwards of three feet in length in the species we treat of. There are two rather short and obtuse cæcums.

The Bay or Glossy Ibis is twenty-six inches in length, and more than three feet in extent. The bill is of a greenish lead color, somewhat reddish at tip, and varies much in length in different specimens,—the longest we have measured was five and a half inches from the corners of the mouth: in many it is but four inches: it is slender, thicker at base, and higher than broad, rather compressed and obtusely rounded at tip, and less arcuated than in the other North American species; the upper mandible is somewhat longer than the lower, thickened and sub-angulated at base, and flattened at its origin: two deep furrows run from the nostrils to the extremity, dividing it into three portions; the edges of both mandibles are quite entire, and being bent in, they form

together when closed another deep channel: the upper mandible is filled inside to a great extent with the bony substance of the bill, so as to be hardly concave. The under mandible follows exactly the curve of the upper, and is but half as high on the sides: it is strongly canaliculated below from the base to the tip; the channel from the tip to the middle is narrow, but then widens considerably, and is extremely wide at base, where it is filled by a naked membrane forming a kind of jugular pouch. The nostrils are placed near the base of the mandible, at the origin of the lateral furrows, and are oblong, narrow, longitudinal, furnished in the upper part with a naked membrane. The tongue is sagittate and less than three-fourths of an inch from the acute point of its lateral lobe to its tip: the jugular pouch is dusky: the small naked part of the face, the lora and region around the eyes are of a greenish gray, which passes into whitish on the limits of the feathers: the irides are dark brown. The crown of the head and cheeks are of a brownish black with purplish reflections; the throat immediately below the pouch is of the same color, though somewhat less brilliant, and with more green reflections; the feathers of the head are pointed, those of the occiput being moreover suberectile: the whole base of the plumage is of a pale sooty gray. The feathers of the back and wing-coverts are compact and rounded; those of the inferior parts are rather loose in texture at their margins: hind head, neck, upper portion of the back, inner wing-coverts to the shoulder of the wing, and all the internal parts of the body, together with the thighs, of a vivid brownish chestnut, very brilliant and purplish on the interscapular region: lower portion of the back, rump, vent, tail and wings entirely, including the upper and lower coverts and the long axillary feathers, glossy golden green, with purple reflections, except the primaries, which are pure golden green. The wings are one foot long, and when closed reach precisely to the tip of the tail, which is four and a half inches in length, and even at the tip: the first primary is hardly shorter than the third, the second longest. The feet are rather slender, and the tarsus much longer than the middle toe: their color is greenish lead, somewhat reddish at the joints: tarsus scutellated, four inches long; the naked part of the tibia nearly three inches; the toes are slender, the middle without the nail is two and a half, and the hind toe one inch long: the nails are long and slender, but truncated and of a dark horn color: the middle one is the longest, and slightly curved outwards, dilated on the inner side to a thin edge, which is irregularly and broadly pectinated. This character is particularly worthy of remark, inasmuch as none of the genus but this exhibit it, and it may be of great use in deciding at once whether mummies belong to this species or not, though we regret that no one appears ever to have thought of having recourse to it to determine this controverted question.

The adult female is perfectly similar to the male in all except size, being very sensibly smaller.

Under two years of age they resemble the adult, but the head and neck are of a much darker color, the chestnut having nothing vivid, but rather verging upon blackish brown, and all speckled with small dashes of white disposed longitudinally on the margins of the feathers, and disappearing gradually as the bird advances in age: the under parts and the thighs are of a blackish gray, more or less verging upon chestnut according to age, the back acquiring its brilliant colors in the same manner. It is in this state that most authors, Brisson especially, have described their *Numenius viridis*, which for a long time usurped the privilege of somewhat representing the type of the species.

The young has these white lines longer and more numerous, and the lowest parts of a darker blackish gray.

This bird does not appear in its full plumage until the third year, and is so different from the adult as to furnish an excuse for those who in that state have considered it as a distinct species. The bill is brown: the feathers of the head and of the throat are dark brownish with a whitish margin, wider in proportion as the bird is younger: the breast, belly, vent, under tail-coverts and thigh-feathers are grayish brown or slate color: the lower portion of the back, wings, and tail of a somewhat golden green, passing into reddish, with but very little gloss in specimens under one year old, and richer as they advance in age. The feet are wholly blackish.

No bird ranges more widely over the globe than the Glossy Ibis: it has long been known to inhabit Europe, Asia, Oceanica, and Africa, where it gained its celebrity. It is now proclaimed as American, though we are not able to tell how numerous or extended the species may be on this continent. We can hardly doubt, however, that it is found along almost all the shores of North and South America, though far from common in any of these states. From the fact of this bird having been known to stray occasionally from Europe to far distant Iceland, we may infer that the individuals met with in the United States are merely stragglers from that part of the world, just as the *Scolopax grisea* of the same plate is an American bird well known to push its accidental migrations as far as the old continent.

Lest the discovery of the Glossy Ibis on the continent of America should give weight to an erroneous supposition of Vieillot, we think proper to mention that the Cayenne Ibis of Latham, *Tantalus cayanensis*, Gmel.; represented by Buffon, pl. enl. 820 (Vieillot's own *unseen Ibis sylvatica*), is by no means this bird, but a real species examined by us, and which must be called *Ibis cayanensis*.

Let it come whence it may, the Glossy Ibis is only an occasional visitant of the United States, appearing in small flocks during the

spring season at very irregular periods, on the coasts of the Middle States. The specimen Mr. Ord described, and which produced a strong sensation even among experienced gunners and the oldest inhabitants as a novelty, was shot on the seventh of May, 1817, at Great Egg Harbor, and we have seen others from the same locality and obtained at the same season, as also from Maryland and Virginia. A beautiful specimen preserved in the American Museum at New York, was shot a few miles from that city in June, 1828. In central Italy they arrive periodically about the middle of April, or the beginning of May, and pass a month among us, after which they disappear entirely, and a pair of the Glossy Ibis is of very rare occurrence, though they have been known to remain here so late as August. A few pairs are brought every year in spring to the market of Rome, and in Tuscany and near Genoa they are more plentiful. The Italian and United States specimens that have come under my observation were all adults. During their stay among us they occupy places near marshes and grounds subject to be overflowed, where there are no trees, but abundance of grass, and plenty of their favorite food. They search for this collected in flocks of from thirty to forty, and explore the ground with great regularity, advancing in an extended line, but closely side by side: when they wish to leave one side of the meadow for another, they do not take wing, but walk to the selected spot. When they have alighted on a newly discovered rich spot of ground, they may be observed on it for hours, continually boring the mud with their bill. They never start and run rapidly like the Curlew and Sandpiper, but always walk with poised and measured steps, so that Ælian says the Ibis's motions can only be compared to those of a delicate virgin. The body is kept almost horizontal, the neck much bent, like the letter S, and lifting their feet high. If alarmed, or when about to depart, they rise to wonderful heights, ascending first in an inclined but straight flight, and then describing a wide spiral, the whole flock are heard to cry out in a loud tone, their voice resembling that of Geese: finally having reached what they consider the proper height, taking a horizontal direction, they soon disappear from the sight: their flight is vigorous and elevated, their pectoral muscles being very thick: they fly with the neck and legs extended horizontally, like most Waders, and as they float along, send forth from time to time a low and very hoarse sound. Their food consists chiefly of small aquatic testaceous mollusca, and they do not disdain such small worms and insects as they may meet with: they are supposed to live chiefly on Leeches (whence their Tuscan name *Mignattajo*), but erroneously, none of these having ever been found in their stomachs either by Prof. Savi or myself. From what is observed in Europe, the regular migration of these birds appears to be in the direction of south-west and north-east. Every circumstance leads to the belief that they

come to us in central Italy through Sardinia and Corsica from the coasts of Barbary, and continue their journey hence to the vast marshes of eastern Europe and the Caspian Sea, where they are well known to breed, though nothing is yet ascertained of their mode of propagation. Be this as it may, the Glossy Ibis in the north and west of Europe is a very rare bird, and merely a straggler, whilst it is common at its passage in Poland, Hungary, southern Russia, Turkey and Greece, especially the islands of the Archipelago. It is found also in Austria and Bavaria, and in other parts of Germany, especially on the Danube; and occasionally near the lakes of Switzerland, but hardly ever in Holland, the north of France, or England. In Sweden it is also met with, though extremely rare: it has been observed in Gothland, along the marshes of the interior parts of the island, and been killed in Scania: it is registered among the rare birds that visit Iceland. It has been found common along the rivers of the Islands of Java and the Celebes; is periodically known during seven months in Egypt, coming in October and disappearing in March: it is later in coming, and disappears after, and in quite a different direction from the white-sacred kind: like this they follow the overflowing of the Nile, retiring gradually as the water becomes too deep. It is very common about the Black, and especially the Caspian Seas, the great rendezvous and breeding place of Waders, where appears to be their chief quarters, and whence they spread into Siberia and Tartary. Great numbers are also met with in the Ural Desert. The Arabs in Egypt kill the Glossy Ibis by shooting them, and catch many in nets, so that in autumn the markets of the cities of Lower Egypt, that of Damietta especially, are abundantly furnished with Ibises of this species, as well as the White, now no longer sacred, which are exposed for sale with the heads cut off. When taken alive, these birds appear really very low spirited, and reject food: they stand upright, the body horizontal, the neck much bent, the head inclined, moving it from right to left, advancing or withdrawing it, and striking the ground with the point of their bill. They often stand on one leg like the Stork: are by no means shy, and will open their bill to defend themselves if you stretch out your hand, but their bite is scarcely felt.

It should be mentioned that although this is the Black Ibis of antiquity, it is by no means that of systematical writers, which they describe as really black, with a red bill and feet. Such a species is very seldom if ever seen in Egypt.

TRINGA PECTORALIS.

PECTORAL SANDPIPER.

[Plate XXIII. Fig. 2.]

Pelidna pectoralis, SAY, in *Long's Exp.* i., p. 171.—*Tringa pectoralis*, NOB. *Cat. Birds U. S.* ID. *Synops.* Sp. 250. ID. *Speech. comp.*—*Tringa campestris*? LICHT. *Cat.* II., *Vogel.* p. 74, Sp. 764. *Tringa cinclus dominicensis*? BRISS. *Av.* v., p. 219, Sp. 12, pl. 24, fig. 1.—*Chorlito a cou brun*? AZARA, IV., p. 284, Sp. 404.—*Alouette de mer de St. Domingue*, BRISS. *loc. cit.*

THIS humble species, well marked, though closely allied to several other Sandpipers, is, as well as I can judge, accurately described and figured by Brisson; but since then unnoticed even by compilers, his description had become obsolete, when Say found the bird in the western territory, and we replaced it in the records of the science. We have since shot it repeatedly on the shores of New Jersey, where it is common. The species appears to be spread throughout the states, extending farther into the interior than most of its family: beyond the Mississippi it is very common; many flocks of them were seen by Major Long's party both in the spring and autumn at Engineer Cantonment, and it is often met with in small parties on the coasts of the Middle States in the latter part of autumn. It also inhabits the West Indies, and, if we are correct in our reference to Azara, is found in Brazil and Montevideo.

Unlike other Sandpipers, this is not addicted to bare sandy places, but on the contrary is fond of damp meadows, where it shows some of the habits of the Snipe. Solitary individuals are often seen, starting up from before the sportsman's feet much in the manner of that bird.

The family to which this bird belongs has been admitted by all authors, under various names, and comprehending more or less aberrant genera. It was first established by Illiger, but he excluded from it those which by an unimportant deviation are destitute of a hind toe, which he placed in his artificial family of *Littorales*, while he included in it some true *Charadriidæ* on account of the presence of a rudiment of this member. Vieillot took the same view, calling the two artificial families *Helionomi*, and *Ægialites*; as did Ranzani and Savi under the names of *Limicole* and *Tachidrome*; and Mr. Vigors erred in like manner by distributing the genera between his too extensive families of *Charadriadæ* and *Scolopacidæ*. The arrangement of Cuvier and Latreille is in this instance much more consonant to nature: these authors called their better composed, though still far from perfect family, *Longirostres*.

This family, which we shall call *Limicolæ* or *Scolopacidæ*, is strictly natural, especially since we have still farther reformed it by withdrawing the genus *Himantopus*, with which we had encumbered it in our Synopsis. The family now comprises the six genera *Numenius*, *Tringa*, *Totanus*, *Limosa*, *Scolopax*, and *Rhynchæa*, all possessing the most marked affinity in form and habits.

The *Scolopacidæ* have either a moderate or generally a long bill, slender, feeble, and extremely soft, being partially or entirely covered with a nervous and sensitive skin: it is nearly cylindrical, and mostly obtuse at the point. Their face is completely feathered, and their neck of a moderate length and size. The feet, though rather long, are moderate and quite slender; the tarsus is scutellated: but the chief character which, combined with the bill, will always distinguish them from the allied families, consists in the hind toe, which is short, slender, articulated high up on the tarsus, and the tip hardly touching the ground: in some quite typical species this toe is entirely wanting, and this fact corroborates what we have so often repeated in our writings, that the mode of insertion, or use made of this toe is of more importance than its being absent or present. In all the *Limicolæ* the wings are elongated, falciform, acute and tuberculated; and the tail rather short.

The females are generally larger than the males, but luckily for naturalists, similar to them in color. I say luckily, for as the young differ greatly from the adults, and as the moult which takes place twice a year produces additional changes in the confused plumage of most of these birds, sexual diversity, if it existed, would render the species still more difficult to determine.

All the *Scolopacidæ* inhabit marshy, muddy places, and around waters; and never alight on trees. On the ground they run swiftly. Their food consists of insects, worms, mollusca, and other aquatic animals, which they seek in the mud, feeling and knowing where to seize their prey without seeing it, by means of the delicacy of touch of their bill. They are monogamous; breed on the ground in grassy marshes, or on the sand; and lay mostly four pyriform eggs, both parents sitting upon them, and afterwards attending their young with care, though these latter leave the nest, run about, and pick up food as soon as hatched. All these habits contrast strongly with those of the Ibis, which can only be forced into this family on account of the softness of the bill, and its great similarity to that of the Curlews.

Our genus *Tringa* is much more extensive than that of most modern, though much less so than that of former writers, for we arrange in it all the *Scolopacidæ*, whose bill, short, or moderately so, straight or slightly curved, is soft or flexible for its whole length, and with the point smooth, depressed, somewhat dilated and obtuse; not taking into consideration the feet, especially the hind toe, which we think in this case hardly

proper to represent subgeneric divisions. Ornithologists will perceive at once from this that our genus thus constituted reunites in a natural group species that were dispersed by Linné in his genera *Tringa Scolopax* and *Charadrius*; and even some that Latham placed in his restricted genus *Numenius*. It coincides more nearly with the better formed genus *Tringa* of Brisson, and especially of Vieillot, Temminck, and Ranzani, but with the addition of their *Arenaria* or *Calidris*; and with the same addition, is wholly included in the *Actitis* of Illiger; although that learned systematist does not cite under his comprehensive genus a single typical *Tringa*, and probably never examined one, as they do not possess the character he assigns to the group "pedes colligati." Our *Tringa* embraces and is formed of the groups *Calidris*, *Pelidna*, *Falcinellus*, *Machetes*, *Eurynorhyncus* and *Arenaria* of Cuvier; and we subdivide it pretty nearly into these very groups, which we regard as subgenera, adding moreover to them another which we call *Hemipalama*.

All our *Tringæ* have a bill compressed at the base, with both mandibles furrowed each side their whole length, the lower a little the shorter: the nostrils are in the furrows, basal, linear, and pervious, but half closed by a membrane: their tongue is moderately long, slender, subfiliform, canaliculated above, entire and acute. The tarsus is slender, longer, or subequal to the middle toe, and always scutellated: the fore toes rather elongated, and slender, the hind toe when present, is extremely short, slender, much elevated, and hardly reaching the ground: the nails are moderate, compressed, curved and acute. The wings moderate for this family, though in reality long, with the first primary longest; the tertials and scapulars shorter than the primaries. The tail is rather short, subequal to the wings when closed, and always of twelve feathers and no more.

With the exception of the subgenera *Falcinellus*, distinguished by an arched bill, and *Calidris*, by a short, straight one, and both three-toed, all our *Tringæ* are tetradactyle, having the short hind toe. With the exception of my subgenus *Hemipalama*, whose character is to have the fore toes all connected at base by a membrane, and of *Machetes*, which has only the outer ones connected, all the *Tringæ* have the feet cleft to the base. Of the species that remain after the separation of these four well marked groups, and which are still the most numerous, we form our subgenus *Tringa*. We must not however pass by unnoticed the *Eurynorhyncus* of Nilsson, a group so important as perhaps to merit generic distinction: it is the *Platalea pygmæa* of Linné, of which a single specimen of uncertain nativity is known.* In this, by an extreme development of the *Tringa* character, the bill is remarkably flattened and widened at tip, somewhat in the manner of the Spoonbill.

* See Thunberg, Av. Sv. Holm. 1816, p. 194, tab. vi.

In the Sandpipers the female is similar to the male, being only somewhat larger. The young differ from the adult, and they moult twice a year, changing greatly the colors of their plumage. These are a mixture of white and cinereous, changing in summer to rufous and black.

The Sandpipers are maritime birds that live in flocks, oftentimes composed of different species, on sandy beaches or muddy shores, preferring mostly salt water. They migrate with the changes of the seasons along coasts and rivers, and are seldom seen in the temperate climates of North America and Europe, except during autumn, winter, and more especially in spring, when they are the most numerous. They retire to the north to breed, which they do socially among the grass near the water, but never in our climates. They feed on insects, mollusca, and other small animals, which they seek in soft ground by thrusting in their flexible bill, or among the rejectamenta of the sea. They run rapidly, and generally fly near the surface of the water in a straight line, and during the day, only short distances. Their flesh, though esculent, is by no means palatable, being too fishy: they grow amazingly fat in autumn, though their fat is not firm, but very oily. They are caught however in Italy by spreading nets on their feeding grounds, and in the United States great numbers are destroyed by the gun.

Spread over all the globe, some of the species even, the Sandpipers are very difficult to distinguish from one another, marked traits being few, and detailed descriptions applying mostly to individual specimens. The species have been wantonly multiplied by superficial observers, and too much reduced perhaps by scientific men. We must chiefly rely on the relative dimensions of the bill and the length of the tarsus in fixing them. In North America are found at least ten of the subgenus *Tringa*, most of which likewise inhabit Europe, that has eight: the Pectoral Sandpiper is the only one besides the *T. pusilla* of those American registered in our Synopsis that is not found in Europe.

This new species, though it is quite as large, if not larger than the *Tringa alpina*, has a shorter bill; which is besides reddish at base, distinguishing it at once from all the species it could be confounded with, since each of them has the bill entirely black: the *T. maritima* and *T. platyrhynca* have a similarly colored bill, but are otherwise too well marked to be mistaken; the former by the restricted naked space of the tibia, and the latter by the depressed form of its bill.

The Pectoral Sandpiper is eight and a half inches long, some females being nearly nine: the bill is little more than an inch long, compressed throughout, reddish yellow at base, the rest black, and with a few Snipe-like punctures near the tip. The crown of the head is black, each feather margined with rufous: the orbits, a line over the eye, and the forehead narrowly are whitish, minutely dotted with blackish; the irides

are dark : a very distinct brown line passes from the eye to the upper mandible : the cheeks, neck above, sides of the neck, and beneath down to the breast are grayish with a rufous tinge, and beautifully streaked with blackish, occupying the middle of each feather, along the shaft : surrounded and well defined (in perfect specimens) by these markings the throat and chin are of a purer white than in other *Tringæ* : the remaining lower parts from the breast to the lower tail-coverts, including the flanks and long axillary feathers are white, the base of the plumage dark plumbeous, and a few blackish streaks along the shafts of some of the flank and vent feathers : the feathers of the neck above, owing to the circumstance of the blackish central line widening considerably, become gradually dusky, the feathers there being merely bordered with the grayish buff. The interscapular region, the scapulars and small wing-coverts are shining black with greenish reflections ; they are margined with ferruginous, and near the exterior tips with whitish : the lower part of the back, the rump, and the upper tail-coverts are jet black and without margins. The wings are five inches long, lined with white, which predominates on the under wing-coverts : these are however a little varied with blackish and gray : the primaries are dusky as well as the outer wing-coverts, and are slightly edged with whitish : the shaft of the outer quill is white ; of the others entirely dusky : the first primary is longest, and after the second they decrease rapidly. The tail is two inches to the tip of the lateral feathers, and a quarter of an inch more to the tip of the middle ones, which are longest by that much, and somewhat tapering, and are black edged with rufous, while the others are pale dusky, margined with white all around the tip. The feet are greenish yellow, the bare space above the knee five-eighths of an inch : the tarsus very nearly one inch, and equal to the middle toe ; the outer toe is connected at the very base with the middle by a very small membrane hardly visible in young individuals, which is also the case with *T. platyrhynca* : the nails are of a blackish horn color. Such is this bird as it appears in the end of summer and early in autumn on the New Jersey coasts, still apparently in its perfect nuptial dress, or nearly so. Mr. Say informs us that all the individuals of the many flocks observed at Engineer Cantonment both in the spring and autumn were of equal size ; and we have also found the sexes to agree in this respect, perhaps more than is usual in other Sandpipers : in the spring dress, according to the same author, the color of the upper part of the bird is much paler, almost destitute of black, and the feathers margined with pale cinereous. The upper part of the head is always darker than any part of the neck, and margined with ferruginous : the plumage of the neck beneath and the breast does not appear to undergo so much change as that of the upper part of the body. We have not seen the bird in this plumage, but it will be evident to every ornithologist con-

versant with the Sandpipers that the specimens described by Say were still in the winter dress, and we may conclude that the changes in this species are analogous to those of its allies.

Several specimens of both sexes that we shot in New Jersey, evidently young birds, as they were killed at the same season as the adults described, are considerably paler and duller, the tints being blended and ill defined: the white even of the throat is dingy, the quills and tail-feathers almost uniformly dusky and destitute of margins: they have not the least trace of the outer toe membrane.

SCOLOPAX GRISEA.

RED-BREASTED SNIPE.*

[Plate XXIII. Fig. 3.]

Scolopax grisea, GMEL. *Syst.* I., p. 658, Sp. 27. LATH. *Ind.* II., p. 724, Sp. 33. *Suppl.* I., p. 444, Sp. 42, winter dress. TEMM. *Man. Orn.* II., p. 679. NOB. *Obs. Wils.* Sp. 205. ID. *Cat. and Syn. Birds U. S.* Sp. 267. ID. *Speech. Comp.* Sp. 206. ID. *Monog. Scolop.* in *Obs. Cuv.* p. 115, Sp. 2.—*Scolopax noveboracensis*, GMEL. *Syst.* I., p. 658, Sp. 28. LATH. *Ind.* II., p. 723, Sp. 32, summer dress.—*Scolopax Paykulli*, NILSS. *Orn. Succ.* II., p. 106, Sp. 186, tab. xi.—*Scolopax leucophaea*, VIEILL. *Gal. Ois.* II., p. 110, tab. 291, changing to the summer dress.—*Scolopax grisea*, VIEILL. *Nouv. Dict.* winter dress.—*Totanus griseus*, VIEILL. *Nouv. Dict.* winter dress.—*Totanus ferrugineicollis*, VIEILL. summer dress.—*Totanus noveboracensis*, SABINE, *Zool. App. Franklin's Exp.* p. 687, summer dress.—*Macroramphus griseus*, LEACH, *Cat. Mus. Brit.*—*Limosa scolopacea*, SAY, in *Long's Exp.* II., p. 170, winter plumage.—*Beccaccia grigia*, RANZ. *Elem.* III., pt. VIII., p. 162, Sp. 5.—*Becassine grise*, VIEILL. *Nouv. Dict.* III., p. 358.—*Becassine ponctuée*, TEMM. *loc. cit.*—*Brown Snipe*, PENN. *Arct. Zool.* II., Sp. 369. LATH. *Syn.* v., p. 154, Sp. 26. ID. *Gen. Hist.* IX., p. 216, Sp. 25. MONT. *Orn. Dict.* with a good fig. in the *Suppl.* winter dress.—*Red-breasted Snipe*, PENN. *Arct. Zool.* II., Sp. 368. LATH. *Syn.* v., p. 153, Sp. 26. ID. *Gen. Hist.* IX., p. 215, Sp. 24, summer dress.—*Graubraune Schnepfe*, MEYER & WOLF, *Tasch.* III., p. 46.

We can add nothing to the excellent account given by our predecessor of this remarkable species, but as he only figured it in its summer and more familiar dress, our representation of the winter plumage will not be thought superfluous upon referring to our elaborate synonymy, and still less if we bear in mind that even a distinct genus has been instituted for it in this vesture, when it chanced to come under more critical inspection. We shall therefore merely dwell upon the literary

* See Wilson's *American Ornithology*, *Red-breasted Snipe*, *Scolopax noveboracensis*, Vol. II., p. 331, pl. 58, fig. 1, for the summer dress.

and systematical history of the species, referring the reader to Wilson for its natural one.

In its winter plumage the adult Red-breasted Snipe, then called Brown Snipe, is so different from the young and from the perfect bird in summer dress, that it is no wonder that it should have been considered a distinct species, especially as it is the only Snipe that undergoes such changes, and analogy could therefore no longer serve to guide us. While passing gradually from one plumage to another, the feathers assume so many appearances as to excuse in some degree even the errors of those who have been led to multiply the nominal species by taking a wrong view of the genus to which it belonged.

Pennant, soon followed by Latham, was the first to make known our Snipe, which they described in both vestures, and the bird was registered accordingly in the ill-digested compilation of Gmelin. Wilson perceived that the two supposed species were one and the same, retaining for it the name of *Scolopax noveboracensis*, which appertained originally to the summer dress alone. That given to the winter dress is now however with more propriety adopted by all modern ornithologists. As some birds of the old continent are known occasionally to stray to the American shores,* so this common American bird visits accidentally the north of Europe, and especially its islands. There are several instances of its having been killed in the British Isles, where more than one English specimen is preserved, small parties even of these birds having been seen there at different periods and in their different dresses. But these instances are by no means so frequent as reported in authors, the *Limosa rufa* and *Tringa islandica* having been mistaken for it. A specimen in ambiguous plumage, straying into Sweden from the marshes of Lapland (where they may be more common), afforded Nilsson the opportunity of contributing his part to the confusion, but as he gave a figure, besides describing the bird with his characteristic accuracy, it was at once detected. Since Temminck, it is only wilful obstinacy or gross ignorance that can persist in regarding as species the different states of a bird so well marked in its natural genus as to deserve a subgenus for itself, and still more on account of its habits than its conformation (notwithstanding Temminck's statements to the contrary), as will be evident from the following generalities on the genus *Scolopax*.

This genus, as instituted by Linné, and adopted by authors from Latham to Wilson, was, like *Tringa*, a great receptacle, though with the advantage of not containing a single species that is not still admitted as of at least the same family. But however extensive it may have

* The *Tringa pugnax* of Europe, we are informed by Mr. Cooper, who has compared the specimen with one of this species from Austria in analogous plumage, has been shot on Long Island in the state of New York.

been, had Linné been consistent in arranging under it all the species that possessed the character he assigned to it, he ought to have added to it the greater part of his *Tringæ*, many of which took rank unperceived in both genera. Cuvier rectified this course, thus forming a vast genus *Scolopax*, more extensive than our whole family of *Scolopacidae*. His subgenus *Scolopax* corresponds, however, exactly to my genus of that name, which I subdivide into three natural subgenera, *Rusticola*, *Scolopax*, and *Macroramphus*, which is the present bird. Illiger first reduced the genus *Scolopax* within proper limits, but including, it is true, *Rhynchæa*, since established by Cuvier as a genus. Modern ornithologists in general agree with us, except that some, as Vieillot and Savi, consider *Rusticola* a true genus, leaving the name of *Scolopax* to the rest. *Macroramphus* and *Scolopax* are in fact more closely related than is *Rusticola* to any of them.

All the species of our genus *Scolopax* are very similar as to the bill, which in all is long, slender, straight, compressed, especially at base, where it is elevated, soft and flexible its whole length, with the point depressed, dilated, tumid, and obtuse: owing to the desiccation of the delicate nervous apparatus of this part, it becomes wrinkled after death, exhibiting at the point a dorsal groove and numerous indentations. Both mandibles are furrowed to the middle on each side; the upper, serrated inside along the palate with spinelike processes pointing backwards, is terminated by an internal knob; the lower being shorter, channelled, and somewhat truncated: the nostrils are in the furrows, basal, marginal, linear and pervious, but half closed by a membrane. The tongue is moderate, filiform and acute. The head is in all large, compressed, and angular, low forward and high behind: the eyes are very large, placed high and far back, but perhaps less so in the bird which is more immediately the subject of our remarks: the neck is of moderate length, and stout; the body compressed and very fleshy.

But if they have all these traits in common, the feet, tail, and wings present material differences. The feet are in all, it is true, moderately long, slender, and four-toed, there being to this no exception as in the *Tringæ*. But in *Rusticola* there is no naked space on the tibia, whilst it exists, though small, in *Scolopax*, and is considerable in the present subgenus. In this the tarsus is much longer than the middle toe, while in the true Snipes it is subequal, and in the Woodcocks decidedly shorter. In the present the outer toe is connected to the first joint with the middle by a membrane, whilst in the two others all the toes are cleft: in this and *Scolopax* the hind nail is falcate and acute, as well as the others, and projects beyond the toe, which is not the case in the Woodcocks, which have that nail quite blunt and drawn back. On the other hand, *Macroramphus* agrees with *Rusticola* in the tail, that part having the regular number of twelve feathers, whilst in the typical

Snipes the number of feathers as well as their shape varies amazingly in the different, and otherwise strikingly similar species. Some have it of twelve, others of fourteen, sixteen, eighteen, and one even of *twenty-four* feathers, a number before unheard of in any other bird whatsoever. In all these groups the tail is nevertheless short, equal, or more or less rounded. In both the groups of Snipes the first quill is the longest; but in the species of Woodcocks the quills vary in length and shape, affording the same anomalies and useful marks as the tail-feathers in the true Snipes. In the European Woodcock the primaries are of equal breadth and the two first longest, while in the American the three outer quills are very narrow, linear, and the fourth and fifth longest.

The females in this genus are similar in color to the males, but larger, considerably so in the American Woodcock. They moult twice in the year, but the present is the only one that varies much with age or season.

It will not be wronging any to call them all stupid birds, though the present is less so: this only of its genus is gregarious, associating and flying in numerous flocks. Like the Snipes, and contrary to the Woodcocks, they do not dwell in damp woods or forests, but frequent open marshy grounds and morasses: but unlike the Snipes, they prefer the vicinity of the sea. They might indeed be called salt-water Snipes, in contradistinction to the others, which are fresh-water Snipes. Their flight is high, rapid, and irregular, having nothing of the heaviness of the Woodcocks. The flesh of all these birds is exquisite food, and much sought after.

The *Rusticola* of Vieillot, which we adopt as a subgenus for the Woodcocks, is distinguished, and even from most water birds, by the want of nudity of the tibia, which is completely covered with feathers, as in land birds. It contains but the two species alluded to, that are closely allied, though they have specific traits that might constitute genera in other cases. This shows the difficulty in our science of knowing where to seek for generic and specific traits in the different groups. The two species of Woodcocks vary greatly in their respective habits, one being a summer, the other a winter visitant in temperate climates, and one of course retiring south, the other northward from them. Some authors prefer for this group the name of *Scolopax*, because it is to its type that the Greeks gave this name.

Our subgenus *Scolopax*, of which we have published a monograph in our Observations on the second edition of Cuvier's Animal Kingdom, is composed of nine or ten species, all of which, with their characteristic details, will be carefully figured in our inedited work "Lithographic Monography of obscure genera of Aquatic Birds." In these

the tail-feathers furnish the specific characters. The number, shape, and disposition of these afford a sure clue, as in *Numenius* it is the rump, under wing-coverts, and long axillary feathers which are our best guide to a knowledge of the species. Without this clue they cannot well be distinguished, and those who undertake to make phrases with this object in a group to which they have not the clue, will only make pedantic nonsense, as is done every day. This very natural group is called *Talmatias* by Boie, and *Gallinago* by the English.

As for *Macroramphus*; as we have observed, it forms the transition to *Totanus*, which would be enough to show the impropriety of Boie's course in considering the genus *Scolopax* as a family of itself. Temminck's name of *Becassine Chevalier* is peculiarly descriptive, and alone contradicts his unjust censure of Dr. Leach's genus, a group whose scientific characters were first laid down by our friend Mr. Say, though he referred the species to *Limosa*.

In its winter plumage the Red-breasted Snipe instead of the mottled garb in which it is familiar, is of an uniform dusky-cinereous: the specimen lying before us is eleven and a half inches long and nineteen in extent. The bill is two and a quarter inches long, of a dull greenish, the tip is black, and obtains the strongly marked dorsal groove that so well distinguishes a *Scolopax* from the allied genera. The prevailing dusky-cinereous color extends over the head, neck and wing-coverts, the back and scapulars being of a lighter dusky-cinereous, and each feather darker on its margin and tip: a broad line from the upper mandible passing over the eye, and the lower orbit, are white: between the eye and bill is a dusky line; the irides are brown: the cheeks, throat, and upper portion of the breast are pale cinereous, each feather being margined with whitish: the lower part of the back, the rump and upper tail-feathers are white, beautifully and closely fasciated with black: the breast, belly and thighs are white, the sides being spotted and waved with blackish: the lower tail-coverts are white with short black bands, narrower than those of the upper parts. The wings are six inches long: the lesser wing-coverts of the color of the body, but they are margined with whitish; the middle and greater wing-coverts are darker with pure white margins and a little white along the shafts: the primaries are plain blackish-dusky, the inner one slightly edged with white: the secondaries are broadly margined and narrowly shafted with white: the first quill is longest, the shaft white: the under wing-coverts and long axillary feathers are white, fasciated with black. The tail is two and a half inches long, composed of twelve feathers, all full and rounded, the two middle a little longer, and marked like the coverts already described, that is white and densely fasciated with black bands. The feet are of a dull green: naked space on the tibia one inch long: tarsus nearly one inch and a half: middle toe without the nail hardly an inch: hind toe more

than a quarter; the toes webbed at base, the outer web reaching to the first joint of the outer toes, the inner being hardly visible.

Wilson's description of the summer plumage being sufficient, we omit it here, though admitting of much more detail: in few words it may be stated that however great the apparent difference, it may be reduced to this: 1. All those parts that are plain cinereous in winter take on a mottled appearance, being strongly tinged with reddish, and varied with black and yellowish. 2. The anterior parts that are white, such as the superciliar line, and breast, become reddish. The strongly characteristic marks of the other parts remain unchanged.

The young birds of the year have the plumage above generally black, the back of the head dusky, and the feathers broadly margined with bright rufous, the superciliar line, and the inferior parts are of a dingy white, inclining to rufous; this color predominates on the breast, where the feathers, as well as on the flanks and the superciliar line, have numerous dusky dots: the middle tail-feathers are terminated by reddish.

Notwithstanding the statements of Wilson, we do not perceive any difference in plumage in the female, which is merely of a larger size. As the species breeds in high northern latitudes, visiting the temperate regions of America in spring and autumn, on its passage to and from its winter quarters, it is the more extraordinary that it should not equally extend these regular migrations to Europe.

PHALAROPUS WILSONII.

WILSON'S PHALAROPE.*

[Plate XXIV., Fig. 1, Adult. Plate XXV., Fig. 1, Young.]

Phalaropus Wilsonii, SABINE, *Zool. App. Franklin's Exp.* p. 691. *Nov. Obs. Wils.* Sp. 233. *Id. Add. Orn. U. S. in Ann. Lyc. N. Y.* 11., p. 159. *Id. Suppl. Syn. in Zool. Journ. Lond.* *Id. Cat. and Syn. Birds U. S.* Sp. 279. *Id. Specch. Comp.*—*Phalaropus fraenatus*, VIEILL. *Gal. Ois.* 11., p. 178, Pl. 271.—*Phalaropus fimbriatus*, TEMM. *Pl. Col.* 370.—*Lobipes fimbriatus*, SELBY and JARDINE, *Orn. Ill.* 1, *Syn.* Sp. 2, Adult.—*Lobipes incanus*, SELBY and JARD. *Orn. Ill.* 1, *Syn.* Sp. 3, tab. 16, Young.—*Phalarope liseré*, TEMM. *loc. cit.*—*Phalarope bridé*, VIEILL. *loc. cit.*—*American Phalarope*, SABINE, *loc. cit.* LATH. *Gen. Hist.* x., p. 4, Sp. 2.

THIS beautiful, and as regards system, so remarkable bird, was first

* See Wilson's *American Ornithology*, *Gray Phalarope*, *Phalaropus lobatus*, vol. III., p. 9, Pl. 73, fig. 2, for a very bad figure and imperfect account; and a much better one illustrating the same figure in the second edition of the same volume, called by Mr. Ord, *Supplement to the American Ornithology of Wilson*, under the name of *Brown Phalarope*, *Phalaropus lobatus*, p. 12.

discovered by Wilson, who, had he lived to publish the species himself, would doubtless have fixed it on the same firm basis as in other instances of the kind. But death put an end to his labors, and to the advantage which science daily realized from them, when among other important materials this Phalarope remained in his portfolio. It became the task of friendship to publish a few rough notes and unfinished sketches, the present among the rest, and a figure was thus produced impossible to be recognised except upon actual reference to the specimen itself. The description which accompanied it was as defective as the figure, the author's pencil notes having been found partly illegible, and it was marked by him as a *Tringa*. In a second and much improved edition, which it has pleased the author to call an original work, though the plates are identical with the former, Mr. Ord's description and personal observations are very correct and ingenious, but the name and synonymes are altogether misapplied, through his mistaking it for the *Phalaropus hyperboreus*. In a paper published in the Annals of the Lyceum of New York, I availed myself of the first opportunity that offered to explain the confusion respecting the three species, and finally distinguished among them three groups which were exemplified in my Synopsis.

Mr. Sabine was not aware when he applied to this bird the name of our predecessor, that he was performing not merely an act of courtesy and respect, but one of justice also towards its first discoverer. It was only by actual inspection of the specimen examined by Wilson, and preserved in the Albany Museum, that we could identify the species, and it does not appear surprising to us that some who have not thus verified the fact for themselves should still express doubts, as Baron Cuvier has done by implication in the new edition of his *Règne Animal*. We ourselves, when we first procured the bird, had not the least suspicion that it was contained in Wilson's work. Every one will therefore be sensible of the propriety of publishing a new figure, more needed in fact in this case than if the species had been new. The description in Sabine's Appendix to Franklin's Expedition could not however be misunderstood, and Temminck and Vieillot by its perusal would have spared this bird two synonymes, as they simultaneously figured and described it in their respective works under the different names quoted in our list, though Vieillot perceived it to be the species intended by Wilson. The authors of the Illustrations of Ornithology did not recognise in their *Lobipes incanus* the young of this, which is not much to be wondered at; but it is rather extraordinary that writers so justly scrupulous about the rights of priority should adopt, though greatly posterior, Temminck's name instead of Sabine's, thus slighting over one of the best of the few positive zoological labors

of their own countrymen, and after it had been already sanctioned by strangers.

That the *Lobipes incanus* is the young of this species, which any one familiar with the changes of plumage of the Phalaropes might have suspected, will, it is hoped, be placed beyond future question by the figure we now give also of it.

If the bill only were considered, this species might with some propriety be united subgenerically with the *P. hyperboreus*, but as by its feet it differs considerably from both the other Phalaropes, which agree in this particular, we have instituted for it a peculiar subgenus under the name of *Holopodius*, which we regard as in all respects more essentially different from the old groups than they are from each other. In what respect Mr. Sabine found this species, which he so well established, intermediate between the two, we are at a loss to imagine.

In fact, in *Holopodius*, so opposite to Cuvier's *Lobipes* both in name and character, the toes have a narrow border formed by a subentire membrane; the outer connected to the first joint only; the inner almost cleft, and the hind toe long and resting on the ground: the two other groups having the toes broadly bordered with a deeply scalloped membrane and semipalmated: the hind toe is very short, the nail only touching the ground. The *Lobipes* of Cuvier differs from the *Crymophilus* of Vieillot only in the shape of the bill, stout, flattened, and carinated in the latter, slender and cylindrical in the former, as well as in ours.

Edwards first brought the Phalaropes into notice, and it was from his works that Linnæus and Brisson registered these singular birds in their general works: the former, however, thrust them into that storehouse of species, his *Tringa*, whilst the latter established for them the genus *Phalaropus*, than which no group is more natural, and in our opinion equivalent to a family.

Latham and all modern authors have retained very properly this genus in their systems. But if they are so far unanimous, they are greatly at variance when they come to assign it a place, some referring it to one order or family and some to another. That these birds belong to the *Grallæ* or Waders, though still more aquatic in their habits even than some of the webfooted birds, does not in my opinion admit of doubt.

Before the recent discovery of the species now under consideration, *Phalaropus* contained but two real species, out of which as many had been formed as their changeable plumage exhibits phases, and what is worse, the nominal species founded on the one had been confounded with those taken from the other, and the different plumage of each taken for varieties of its relative, so that not even the two real species were accurately known apart; though so different as to form each of

them the type of a peculiar group, in the same manner as we have observed is the case with the *P. wilsonii*. They are found in the north of both continents, the present being peculiar to America, which possesses them all. Cuvier, losing sight of the strong common tie that connects the Phalaropes, has separated his two groups, *Phalaropus* and *Lobipes*, and has placed the one near *Tringa*, and the other near *Totanus*, on account of the analogy of the bill, regarding the *Phalaropus* as a pinnate-footed *Tringa*, and the *Lobipes* as a pinnate-footed *Totanus*. Vieillot, in adopting these groups as genera, placed them adjoining each other in a separate family, but he changed Cuvier's names into *Crymophilus* and *Phalaropus*, transposing the latter name to the other group, the *Lobipes* of Cuvier. All the three known Phalaropes are distinguished by a moderate, slender, straight and subcylindrical bill: both mandibles are furrowed each side nearly their whole length, and the upper somewhat curved at the point; the lower is hardly shorter, quite straight, and the point subulate. The nostrils are in the furrows, basal, longitudinal, linear, half closed by a membrane. Their head is small, completely feathered, compressed and rounded above; the eyes are small, the neck well proportioned, and the body roundish. The feet are moderately long, four-toed; the naked space on the tibia rather extensive; the tarsus as long as the middle toe, moderate, robust, somewhat compressed, and scutellated; the toes are moderate and rather slender, the three anterior bordered by a festooned membrane, and the outer at least is always connected at base to the middle one; the hind toe is short, bordered only on the inside with a small entire membrane, articulated rather high and internally, touching the ground at tip: the nails are short, curved, and acute. The wings long, falciform, and acute, the first primary being the longest: the quills twenty-five in number. The tail is short, and consists of twelve feathers, with its under coverts extending quite to the tip.

The female is but little different from the male, but larger and handsomer in full plumage. The young are very different from the adults, and they vary much with age. They moult twice in the year, their colors changing strangely, which has occasioned the wanton multiplication of species. Their plumage is close, thick, abundantly furnished with down, and impermeable to water. Their colors are principally brownish and reddish, changing in winter to gray and white, which is always to be found on their under parts.

Their habits are essentially aquatic. They inhabit the seacoasts, the shores of lakes and occasionally of rivers; are gregarious, but never collect in large flocks. Probably from being so seldom met with, they show little dread of mankind, and allow of the nearest approach, and not being alarmed at the report of a gun, it is easy to kill several without moving from one spot. Their food consists of aquatic insects and

other small animals that are found in the water. They are strictly monogamous, and are generally seen in pairs, carrying fidelity to an extreme: delighting in their peculiar element, they even copulate on the sea, and reluctantly leave it to build their nest on shore, among grasses: they lay from four to six eggs, which both sexes incubate, the male being even more strongly marked on the belly by the naked places which this causes: they share between them all the parental duties, and the young leave the nest, run about and swim as soon as they are hatched. The Phalaropes are hardly ever seen on dry ground, where, however, they walk and run swiftly, without the embarrassment of some other birds of less aquatic propensities. Though certainly the smallest of swimmers, they perform this operation with great dexterity, resisting the heaviest waves, or rising over their top, but are never known to dive: they notwithstanding swim with perfect ease, when they have all the appearance of a miniature Duck, with their head carried close to their back. While swimming they dip their bill often in the water, frequently turning round, with much elegance in all their motions. Their flight is rapid. Their flesh is oily and unpalatable.

The abode of these diminutive swimmers is the arctic and polar regions, to which their thick coat of feathers is well adapted. Hence they migrate in autumn to the temperate regions of both continents, where they are also seen in spring. They are essentially arctic birds, and breed in the most northern parts of the world, and although they retire more to the south in winter, yet their visits to our temperate climates are rare and casual. From such a combination of traits as are above related it will be evident that though much restricted in the number of species the Phalaropes are entitled to a conspicuous rank in classification. They can only be compared with the allied genera *Himantopus* and *Recurvirostra*, and we see how materially they differ from them. They may be said to connect the *Scolopacidæ* with the *Laridæ*, forming a beautiful link between the order of Waders and that of the Web-footed birds.

Our subgenus *Holopodius*, which resembles *Lobipes* in the bill, while *Crymophilus* resembles it in the feet, is furnished with a long, very slender, smooth, flexible, and cylindrical bill, of equal breadth throughout, subulate to the tip, with the point narrow, sharp, and slightly curved: the nostrils are quite basal, and linear-elongated: the tongue is filiform and acute. The tarsi are elongated, and much compressed, in which it comes nearer to the *Anseres*, and compensates for the other traits which remove it farther from them than the other Phalaropes. Thus do we find ourselves baffled in all attempts at a regularly symmetrical or mathematical arrangement, Nature acknowledges no artificial nor contracted limits. The toes are long, and by no means semipalmated, the outer being connected to the middle only as far as the first

joint, and the inner almost divided; the bordering membrane narrow and subentire; the hind toe long, and resting on the ground. The wings are long, even for the genus, and the tertials very long, reaching nearly to the tip of the primaries when the wings are closed. The tail is moderate, being neither so long as in *Crymophilus*, nor so short as that of *Lobipes*. The general form is slender, and together with the bill and other traits, gives this bird a strong resemblance to the *Totani*, a bare analogy, however, which we should not with Cuvier mistake for affinity.

The American or Wilson's Phalarope has been so well described from the recent specimen, by Mr. Ord, as not to be susceptible of improvement, and the following description is merely intended to elucidate our figure, which represents of the natural size a beautiful female in the perfect plumage of spring. This individual was nine and a half inches long and sixteen in extent of wings. The form of the bill we have described above: it is black, and more than an inch and a quarter long, though only a line in thickness: the irides are dark brown. The upper part of the head is of a bluish delicate pale ash color, the hind head and that part of the neck adjoining it are whitish; a white stripe passes over the eye, and beneath it is a spot of the same color: a large curving band of black includes the eye and spreads out towards the nucha, descending a good space down the neck, and gradually passes into a reddish brown, which becomes the color of the sides of the neck; this tint deepens into bright chestnut on the back part of the neck, and descends on each side, thus mingling with the plumage of the back and scapulars, which are dark ash, each feather slightly tipped with whitish: the upper tail-coverts are ash color. The throat and sides of the head to the black mark, and all beneath, including the lower tail-coverts, are pure white, somewhat tinged with rufous on the lower part of the neck beneath. The wings are five inches long, and in color dark ash, larger coverts and secondaries very slightly edged with white, under coverts white, most of the smaller wing-coverts being marked with ferruginous: the upper tail feathers are tinged with reddish at their tips, and the under marked with white on their inner webs. The feet are dark plumbeous; the claws of a dark horn color, the naked part of the tibia is nearly an inch long, the tarsus more than one inch and a quarter, and sharpish; the middle toe without the nail is scarcely one inch, and the remarkably long hind toe five sixteenths without the nail.

There are fewer variations caused in this Phalarope than in the others by sex and season: the young however is surprisingly different, for which reason we have figured it also of the full size. The bill is like that of the adult, somewhat gaping beyond the middle: the face is whitish mixed with dusky, and with a dusky stripe from the bill to the eye: the crown, neck above, back and wings are dusky brown, darker

on the middle of the feathers: the rump, upper tail-coverts and flanks broadly are white; the throat is pure white: the sides of the neck are tinged with rusty: the neck beneath and breast are white, slightly tinged with reddish-dusky; the belly of a purer white with a little dusky; the vent, and long lower tail-coverts, which reach to the tip of the tail, are pure white: the wings are four and three-quarter inches long, the lower coverts white. The scapulars blacker, with pale rusty edges: the primaries are blackish, with pale brown shafts, of which the outer is white. The tail is broad and rounded, the middle and outer feathers somewhat longest; all of a pale dusky gray with white shafts, the exterior being also white on the best part of the inner web. All the tail-feathers are also edged with white. The feet are reddish black, the tarsus an inch and a quarter long.

We are acquainted as yet with no peculiarity of this fine Phalarope, and even the few facts registered concerning it have been obscured by the heedlessness of compilers. Though it appears to extend its migrations more to the south than its congeneric species, it is decidedly like them (notwithstanding Temminck's supposition to the contrary), an Arctic bird, and the only remarkable circumstance about it is that it should not also be found in Europe. As far as we know it is exclusively North American, for the specimen of the young inadvertently said by the authors of the Ornithological Illustrations to have come from South America, was found in the Vera Cruz market, as appears from their own account. As for Senegal, it was merely a gratuitous supposition on the part of Temminck, too rashly converted by the same English authors into certainty, and it therefore remains strictly North American, for which country we have, besides Wilson's and our experience, the unquestioned authorities of Vieillot and Sabine.

TRINGA SCHINZII.

SCHINZ'S SANDPIPER.

[Plate XXIV. Fig. 2.]

Tringa cinclus, var. SAY, in *Long's Exp.* I., p. 172.—*Tringa Schinzii*, BREHM, *Lehrb. Eur. Vog.* II., p. 571. NOB. *Obs. on Wils.* before Sp. 213. ID. *Cat. and Syn. Birds U. S.* Sp. 249.—*Scolopax pusilla*? GMEL. *Syst.* I., p. 663, Sp. 40?—*Tringa cinclus* var. *a minor*? BRISS.—*Tringa alpina*? VIEILL. (not of authors.)

IN Mr. Say's valuable notes to Long's Expedition, he describes as follows the bird which we have had carefully represented in the annexed plate in order that naturalists may judge whether or not we are right in referring it to the new European species hitherto confounded with

Tringa alpina, and lately separated by Brehm in his work on the birds of Europe, under the name of *Tringa Schinzii*. It is so difficult to say what is a species and what a variety in this most intricate genus, that we shall not undertake to decide from a single specimen, especially when, as in this case, it involves the identity of the bird in the two continents.

"*Pelidna cinclus* var. Above blackish brown, plumage edged with cinereous or whitish; head and neck above cinereous with dilated fuscous lines; eyebrows white; a brown line between the eye and corner of the mouth, above which the front is white; cheeks, sides of the neck and throat cinereous lineated, with blackish-brown, bill short, straight, black; chin, breast, belly, vent, and inferior tail-coverts pure white, plumage plumbeous at base; scapulars and lesser wing-coverts margined with white; greater wing-coverts with a broad white tip; primaries surpassing the tip of the tail, blackish, slightly edged with whitish, exterior shaft white, shafts whitish on the middle of their length; rump blackish, plumage margined at tip with cinereous tinged with rufous; tail-coverts white, submargins black; tail-feathers cinereous margined with white, two middle ones slightly longer, black margined with white; legs blackish. Adult male. Length to tip of tail seven inches. Bill seven-eighths of an inch."

This bird was shot in November, near Engineer Cantonment; and Mr. Say thought it was probably a variety of the very changeable *cinclus* (*Tringa alpina*) in its winter plumage. It is this very specimen that we have had represented of its full size in the annexed figure in order that naturalists may judge if we are right in the course that we have chosen. Be it as it may, we are satisfied that *Tringa Schinzii* is a good species, well distinguished from *Tringa alpina* by its smaller size, and proportionally even shorter bill. The more extensively white upper tail-coverts are the best and most conspicuous mark: it is also to be observed that in the summer dress the ferruginous color of the upper part is paler, the black spot of the breast more restricted and less pure; and the neck more broadly streaked. Both sexes are moreover perfectly alike in color, which is never the case in the *alpina* in spring dress. It belongs to the subgenus *Tringa*, of which we have already treated, and it is common to both continents. In America it is found from far beyond the Mississippi to the Atlantic shores, and is rather common in autumn on the coasts of New Jersey, either in flocks by themselves, or mixing in company with other Sandpipers, with which it has every habit in common.

The specimens that we shot in New Jersey measured seven inches in length and above fourteen in extent. The bill is very nearly but not quite an inch long, compressed and black from the base: the crown, neck above, and interscapular region are of an ashy-brown, much

darker in the centre of each feather and lighter on their margins; on the lower portion of their back this darker color widening, predominates, and becomes black, so that the tips of the feathers only are of the general pale ashy color; the upper tail-coverts are white, blackish along the shaft and towards the margin of the outer vane: a whitish stripe runs from the very origin of the bill over each eye; the cheeks, sides of the neck and breast are whitish streaked with ashy dusky along the shaft of the feathers, giving these parts an obscurely lineated appearance, the throat quite to the bill, and all the remaining under parts are white, the bottom of the plumage being plumbeous, and a few bands of that color appearing across the lower flank feathers. The wings are four inches and a quarter long, with the tertials and scapularies remarkably tapering and acuminate, shorter by a good inch than the two first quill-feathers: all the wing-coverts are of the color of the body, but a little darker, each having a pale gray margin, the inner great coverts have a very pure white tip: the shafts of all the quill-feathers are pure white at least for a good portion near the centre: the primaries are blackish ash: the secondaries paler and margined with whitish, the tertials are again blackish edged with pale grayish: the under surface of the wing is of a silvery gray; the under wing-coverts white marbled with dusky. The tail is two and a quarter inches long: the four lateral feathers each side are very nearly equal in length, of a pale ash color margined and shafted with white: they become gradually darker as they are nearer the centre, the fifth each side is blackish ash, a trifle longer than those already described, and has a very conspicuous pure white marginal tip on the inner web; the two middle surpass the others by a quarter of an inch, are somewhat pointed and entirely blackish. The feet are blackish; the naked space above the heel half an inch; the tarsus seven-eighths of an inch long, and much longer than the middle toe, the toes are cleft at the base; the nails are blackish. As will easily be perceived the specimen described is in the winter dress.

This Sandpiper is well known to appear in a summer vesture analogous to that of *Tringa alpina* at the same season; but we have never met with an American specimen in that state.

In the full plumaged males the bill and feet are black: irides brown: before the eye a small blackish patch surmounted by a white stripe dotted with blackish gray. Head above, back and wing-coverts bright rufous, the feathers with merely a black centre: colors not so bright as in *Tringa alpina*: wings above blackish gray with black shafts; point of the primaries black, with white shafts: the ten middle tail-feathers as well as their upper coverts are blackish: the lateral cinereous with their coverts white: the chin is white, the sides of the head and hind neck are of a ferruginous gray: throat white, longitudinally

spotted with rufous gray; the breast almost entirely of a jet-black color, always interrupted by some insulated white feathers, and never so broadly black as in *Tringa alpina*: all the remaining under parts are white, with a very few dusky streaks on the sides.

At one year of age the male is on the back of a less bright rufous spotted with black: on the breast the black consists merely of a spot, and is mixed with many white feathers. The female much resembles the male at the same age. The very young is above of a ferruginous color varied with white, yellowish, and black; all beneath white, streaked with dusky ferruginous on the throat.

They frequent marshy shores, and the borders of lakes and brackish waters. They are very social even in the breeding time, and are then by no means shy: during autumn they join company even with different birds, and become very wild. Their voice resembles that of *Tringa alpina*, but is more feeble. They feed on worms, aquatic insects and similar food: build near marshes and lakes, among weeds: they lay four eggs, smaller and much less in diameter than those of *Tringa alpina*, of a yellowish-gray spotted with olive or chestnut brown.

CHARADRIUS MELODUS.

PIPING PLOVER.*

[Plate XXIV. Fig. 3.]

Charadrius melodus, ORD, in the reprint of Wilson's Orn. VII., p. 71, and Gen. Ind. of the Water Birds, Suppl. Orn. Wils. (IX.), p. cccii. NOB. Obs. Wils. Orn. Sp. 220. ID. Cat. and Syn. Birds U. S. Sp. 217. ID. Specch. Comp. sp. Philad.—*Charadrius Okenii*, WAGLER, Syst. Av. I., Charad. Sp. 24.—*Ringed Plover*, var. B. LATH. Gen. Hist. IX. p. 327, Sp. 12, var. B.

THE well merited elevation of this bird to the rank of a species fully vindicates our predecessor from the unjust censure of Temminck, who thought his figure of it intended for the *Charadrius hiaticula*. The same censure is repeated and aggravated by Mr. Sabine, who probably thought it intended for the *C. semipalmatus*. But if the figure is free from the supposed fault of incorrectness, its extremely diminished size, which renders it almost useless, requires that the bird should now appear in this work in its full dimensions.

* See Wilson's *American Ornithology*, *Ringed Plover*, *Charadrius Hiaticula*, Vol. II. p. 355, pl. 37, fig. 3, for a reduced representation of the adult in spring dress, and the history.

Not only is the true *C. hiaticula* of Europe not found on the American continent, but the birds hitherto mistaken for it constitute two very distinct and exclusively American species, notwithstanding the awkward quotations in the new edition of Cuvier's *Règne Animal*, which, in this instance, as in several others, is as far behind its age as the former was in advance of it.

Although the never too much lamented Wilson gave, in his fifth volume, the present bird as a variety of which he intended figuring the type in a future part of his work, when he came to it in his seventh volume, he clearly and positively pointed out the difference in markings, habits, migrations, and voice, between the two which he then considered as distinct species: he thus in reality established the species, and indeed so well, that we cannot do better than refer to his conclusive reasonings. The only essential point he omitted was to impose a name on his species, which he undoubtedly would have done had he lived to publish himself the index to the water birds, as, in some instance, he supplied similar deficiencies for the land birds. Mr. Ord has, however, filled this void by calling the bird *C. melodus*, which appropriate name we feel bound to adopt; and the more so, as Mr. Ord informs us that it would have been Wilson's own choice. Almost simultaneously with our endeavors in this country for permanently fixing the species, Dr. Wagler in Europe, on his part, was also giving it a name, so that it is now furnished with two.

In the circumstance of its inner toe being cleft to the base, this bird approaches more closely to *C. hiaticula* of Europe, than to *C. semipalmatus*; but in colors it differs greatly from these so similar species, and the membrane that connects the outer toe is considerably smaller than in any. The synonyms of Wilson do not of course apply to this new species; and what is worse, though this is common to all writers upon the Ring-Plover, they do not belong to one and the same species.

Although, without doubt, related to the *Tringa*, which are *Scelopacidae*, the Plovers belong to another family, that of the *Pressirostres* of Cuvier—which may be called *Charadriidae*—and through *Otis* and *Ædicnemus* these Waders are connected somewhat with the Gallinaceous birds. This natural family of ours, very different from the artificial one formed by so many authors for the three-toed Waders indiscriminately, and adopted under the name *Charadriidae* by the new English school, though professing to adhere to a natural arrangement—is well distinguished by its short (or moderately so) rather robust bill, the hind toe wanting, or when present, very short. It is composed of but eight genera, of which only three are found in North America, two aberrant, and the present, the only typical American, which is well distinguished by its bill, very short rounded, obtuse, and somewhat turgid at tip. In

order to exemplify how different from that of authors is this family, as we understand it, we may remark that the birds forming it are scattered by Illiger through his *Campestris*, *Littorales*, and *Limicolæ*; by Cuvier and Latreille divided between their *Longirostres* and *Pressirostres*; by Vieillot placed in *Pedionomi*, *Ægialites*, *Helionomi*; in *Tachidromi* and *Limosæ* by Ranzani and Savi; in *Charadriadæ* and *Scolopacidæ* by Vigors, &c.

Our genus *Charadrius* has different limits from those of perhaps any recent or former author, being more extensive than in many, but more contracted than that of Wagler, which comprehends all our typical *Charadriidæ*. Linné, who made it a sort of receptacle for nearly all three-toed Waders, has placed in *Tringa* some of our Plovers that are furnished with a rudiment of hind toe, and the same has been done by Gmelin, Latham, Illiger, and even, though to a less extent, by Cuvier. As long since restricted by the separation of *Himantopus* and *Calidris*, which are not of the same family, and of *Ædienemus*, which truly is, it is much more natural; especially if with Wilson we unite with it, as nature dictates, those species that happen to possess the rudiment of a fourth toe. Among the earlier writers Brisson was the first who assigned more natural limits to the genus which he called *Pluviatis*, and his two well enough composed genera, *Pluvialis* and *Vanellus*, include all our Plovers. Cuvier, Temminck, Vieillot, and Ranzani place the four-toed Plovers with the Lapwings, *Vanellus*. Savi more recently has evinced his good judgment by separating them at least from *Vanellus*, if he does not unite them with *Charadrius*, which his professedly artificial system did not allow.

I distinguish two subgenera in my extensive genus *Charadrius*, regarding *Squatarola* of Cuvier and Savi as no more than a section of my first subgenus, of so little importance do I consider the anomaly of the hind toe, the sole characteristic of that artificial group. These subgenera are: 1. *Pluvialis*, for the large mottled species without a collar, and with variegated plumage. Such are amongst the three-toed the European and Asiatic *C. pluvialis* and *morinellus*, and the American *virginicus* (or *marmoratus*); and among the four-toed the European-Asiatic bird *C. gregarius*, and the cosmopolite *C. helveticus*. 2. *Ægialitis*, Boie, or the Ring-Plovers, which have a broad white collar around the neck. This is the more numerous in species, and the present belongs to it: it may form two sections, one for the semipalmated Ring-Plovers, whose toes are all connected at base by a membrane, and the other for this and the remaining Ring-Plovers, in which the inner toe is separated down to the base. As for the armed or spur-winged Plovers, as well as the wattled species, all I have examined were perfectly similar to the armed and wattled Lapwing, and they constitute in my arrangement a very natural subgenus under the name of *Hoplopterus*, which

group, like *Pluvialis*, may be sectioned into those with three and those with four toes. This group of *Hoplopterus*, both by its tarsus and wings, takes place under my genus *Vanellus*, and differs subgenerically from the typical species merely by its longer legs, and hind toe less developed, or often wanting. *Pluvianus*, Vicillot, distinguished by a stouter bill, I never have examined, but have no doubt that it will find its place in my genus *Vanellus*, where it may be united to my three-toed *Hoplopteri*, or possibly become a subgenus by itself.

Both the three-toed and four-toed species that form my subgenus *Charadrius*, and are so easily known by their greater size and want of a collar, live in large damp meadows, or open and muddy champaign countries. They hardly ever alight on the beach, or even accidentally on river shores. During the nuptial season the males assume a brighter vesture. They do not breed in the temperate climates of Europe or North America, but only show themselves there in autumn and winter. Their flesh is exquisite food.

The Ring-Plovers on the contrary are shore birds in their habits, and may be known by their diminutive size and broad white collar. They frequent invariably the banks of rivers and sandy sea beaches, and it is by accident if they are seen at a distance from their favorite element. Their plumage does not undergo extreme changes, and merely from darker to lighter. Several species breed in our climates, and their flesh is hardly esculent. Although not marked by any striking physical character, we regard the extensive group *Ægialitis* as a very natural one: it has numerous species in every part of our globe. The three European are modelled precisely after the same type as the present species, while the three other North American have each a strong distinctive character peculiar to itself: in the Semipalmated it is the webbed toes, in the Wilson's the powerful and acute bill, and in the Kildeer its large stature and oddly colored wedge-shaped tail.

In all our Plovers the bill is shorter than the head, rather slender, straight, cylindrical, depressed at base, obtuse and somewhat turgid at tip: the upper mandible is longitudinally furrowed two-thirds of its length, the lower is shorter: a remarkable character consists in the small opening of the bill, which is hardly cleft beyond the origin of the feathers. This peculiarity affords an excellent means of distinguishing them from the *Edicnemi*, in which the gape extends to beneath the eye. The nostrils are basal, lateral, placed in the furrow, and covered by a membrane, leaving only a narrow longitudinal opening: the tongue is entire, obtusely lanceolate, channelled somewhat above, convex beneath. The head is large in proportion to the body, and the eyes large even for the head: the forehead is prominent and the face wholly feathered. The feet are either three or four-toed, with the hind toe exceedingly small and raised from the ground: the naked part of the tibia is mod-

erate; the tarsi are longer than the middle toe and *reticulated*; the toes scutellate, margined by a narrow squamulose membrane: the middle toe is longest and connected to the outer, at least to the first joint, by a membrane: even in the species that have the inner toe cleft there are traces of the membrane, which is so much developed in the Semipalmated Ring-Plover: the nails are compressed, curved, and acute. The wings are elongated, acute, and tuberculate: the first primary is longest, and after the second they decrease rapidly, thus presenting a most useful mark for discriminating between this and the kindred genus *Vanellus*, which has obtuse wings, the third primary being the longest, and the others decreasing gradually. The tail is more or less rounded, always composed of twelve feathers, rounded or lanceolate. The plumage of the under parts is soft, the feathers being numerous, wide, rather dense in the centre, with the barbs rather loose, and well furnished with down at base: the plumage of the upper parts is rather dense, and the feathers more or less rounded at the tips: the scapularies are long, at the tips attenuated and very flexible. In most of the species the males and females are alike, the young somewhat different from them. They moult generally twice in the year, when the colors of their plumage undergo some changes.

The Plovers are all more or less gregarious in disposition: their haunts are either meadows, as the mottled Plovers, or the seashores, like the Ring-Plovers: they have a very remarkable habit of stirring the soil with their feet, to put in motion worms and aquatic insects, their exclusive food. They are more nocturnal than diurnal. They lay in the sand about four large eggs. The young very soon after they are hatched follow the mother, and pick up the food which she with great care points out to them.

The Piping Plover is seven inches long, and fourteen in extent: the bill is bright yellow slightly tinged with orange for half its length, thence black: the eyelids are bright yellow and the irides dark brown. The plumage above generally, with the mere interruption of the ring on the neck, is of an extremely pale brownish or dusky, inclining strongly to whitish ash: the front, part of the head between the bill and eyes, and the whole inferior surface from the chin to the tip of the lower tail-coverts, and including the under wing-coverts and long axillary feathers, is pure white: the head and breast are ornamented, the former with a black crescent, that runs transversely between the eyes and bounds the white forehead on one side, and the ash-colored parts of the head on the other; the latter by a curved band round its sides, forming the ring or half-collar round the neck, but narrow and almost interrupted before. The wings are four and three-quarter inches long, and reach when closed to the tip of the tail; the wing-coverts are darker than the back feathers, and are all edged with white: the larger coverts are broadly

terminated with white, constituting the band across the wings: the quill-feathers are dusky; the secondaries are broadly white inside with margins of the same: the primaries are blackish at the point, shafted and obliquely centered with white; the four outer ones are blackish on their outer margins where the others are white. The tail is two and a half inches in length, nearly square at tip, being much less rounded than in the Semipalmated species, white beneath for half its length, and blackish at tip; the outer tail-feather is wholly white, the next is also white, and with a single spot of black, which on the third extends much more, and still more on the fourth, and fifth, till the last is merely terminated with white, the middle ones being wholly dusky from the white of the base. The feet are greenish yellow tinged with orange, and the nails black.

Those authors who describe the autumnal plumage as much darker, are still laboring under the erroneous opinion which they had rejected, of this being the same with the *C. semipalmatus*. On the contrary, it is if anything still paler at that season, and considerably resembles that of the young birds, which are distinguished by the absence of the neck ring and sincipital crescent, and the bill being entirely blackish.

As will appear by referring to Wilson's two articles on the Ring Plovers, this species is commonly met with during the whole summer along the sandy coasts of the United States, on the approach of winter retiring south: it lays in the month of July on the sandy beach, three or four eggs, very large for the bird, of an obscure clay color, all sprinkled with numerous reddish spots. It runs rapidly, holding the wings half expanded; and utters a very soft and mellow cry.

PHALAROPUS HYPERBOREUS.

HYPERBOREAN PHALAROPE.

[Plate XXV. Fig. 2.]

Tringa hyperborea, LINN. *Syst.* i., p. 249, Sp. 9. GMEL. *Syst.* i., p. 675, Sp. 9. RETZ, *Faun. Suec.* p. 183, Sp. 152. MULL. *Prod. Zool. Dan.* Sp. 196.—*Tringa lobata*, LINN. *Syst.* i., p. 249, Sp. 8. *Id.* *Faun. Suec.* p. 64, Sp. 179. RETZ, *Faun. Suec.* 152, young. MULL. *Prod. Zool. Dan.* p. 195. FAER. *Faun. Græn.* p. 109, Sp. 75, adult and young and history. BRUNN. *Orn. Bor.* p. 51, Sp. 171, young (N. B. Not of Gmel. who under this name had in view the *Ph. fulicarius*, though he unaccountably retained the Linnean phrase).—*Tringa fusca*, GMEL. *Syst.* i., p. 675, Sp. 33, young.—*Phalaropus hyperboreus*, LATH. *Ind. Orn.* ii., p. 775, Sp. 1. MULLER, Sp. 196. *Trans. Linn. Soc. Memoir Birds of Greenland*, xii., p. 535. TEMM. *Man. Orn.* 1st ed. p. 457. *Id.* *Man. Orn.* 2d ed. ii., p. 709. SABINE, *App. Franklin's Exp.* p. 690. NOB. *Add. Orn. U. S. in Ann. Lyc. N.*

I., II., p. 159. *Id. Cat. Syn. Birds U. S.* Sp. 279. *Id. Specch. Comp.—Phalaropus fuscus*, BRISS. *Orn.* VI., p. 15, Sp. 3. *Id.* 8vo. II., p. 363. LATH. *Ind. Orn.* II., p. 776, Sp. 4. Linn. *Trans.* XII., p. 535, young.—*Phalaropus cinereus*, BRISS. *Orn.* VI., p. 15, Sp. 2. *Id.* 8vo. II., p. 362, adult. NILSS. *Orn. Suec.* II., p. 120, Sp. 193. MEYER & WOLF, *Tasch. loc. cit.* BREHM, *Lehrb. Eur. Vog.* II., p. 665. ROUX, *Orn. Provenç.* Pl. 337, adult Male.—*Phalaropus Williamsii*, HAWORTH, Linn. *Trans.* VIII., p. 264.—*Lobipes hyperboreus*, SELBY & JARDINE, *Orn.* III. I., *Synops.* Sp. 1.—*Larus fidipes alter nostras*, RAY, *Syn. Av.* p. 132, A. 7. WILL. p. 270.—*Tringa fusca rostro tenui*, KLEIN, *Av.* p. 151, Sp. 3.—*Falaropo iperboreo*, RANZ. *Elem. Zool.* III., pt. VIII., p. 283, Sp. 1.—*Le Coq d'Odin*, ANON. *Icon. Rer. Nat.* II., p. 8, Pl. 20, adult.—*Phalarope cendré*, BUFF. *Ois.* VIII., p. 224. *Id.* ed. 1784, IX., p. 124. German Translation by OTTO, XXX., p. 111, cum figura. ROUX, *tab. cit.*—*Phalarope de Sibirie*, BUFF. *Pl. Enl.* 766, Male.—*Phalarope hyperboré*, TEMM. *loc. cit.* VIEILL. *Orn. Franc.* Pl. 278, fig. a, summer dress, fig. b, winter.—*Lobipède à hausse-col*, CUV. *Règn. Anim.* I., p. 532.—*Cock coot-footed Tringa*, EDW. *Glean.* Pl. 143, adult Female.—*Coot-footed Tringa*, EDW. *Glean.* Pl. 46, young.—*Jonston's small cloven-footed Gull*, WILL. *Engl.* p. 355, § VII.—*Red Phalarope*, LATH. *Syn.* v., p. 70, Sp. 1. *Ubersetz (translation)*, v., p. 289, Sp. 1, tab. 94, Male. *Id. Gen. Hist.* x., p. 1, Sp. 1, and var. A and B (Pl. 163). (N. B. Var. C is *P. fulicarius*, taken from Wilson's work.) PENN. *Brit. Zool.* II., p. 219, Pl. 76. *Id.* ed. 1812, II., p. 125, Pl. 21. *Arct. Zool.* II., p. 494. BEWICK, II., p. 139. LEWIN, v., Pl. 193. WALCK. II., Pl. 127. MONT. *Orn. Dict. Suppl. and App.*—*Brown Phalarope*, LATH. *Syn.* v., p. 274, Sp. 4. PENN. *Arct. Zool.* II., Sp. 214, young.—*Red-necked Phalarope*, BEWICK, *Brit. Birds*, II., p. 149.—*Seeschnepe*, CRANTZ, *Hist. Grœnl.* p. 113.—*Der Wasserstretter*, SCHMID. *Vog.* p. 128, tab. 111.—*Aschgrauer Wasserstretter*, BECHST. *Nat. Deutschl.* IV., p. 372. MEYER & WOLF, *Tasch.* II., p. 417.—*Rothalrige Wasserstretter*, WOLF & MEYER, *Vog. Deutschl.* I., Hef. 15, fig. 1, adult Male, fig. 2, young Female, fig. 3, young Male. SELIGMANN'S *Voy.* v., tab. 38.—*Gemeine Wasserstretter*, BECHST. *Nat. Deutschl.* II., p. 317. MEYER, *Vog. Deutschl.* I., Hef. 15, fig. 2 and 3, young at different ages. NAUM. *Vog. Nachts.* II., p. 80, fig. 24, young.—*Fisklita*, Act. *Nidr.* III., p. 575. *Bam.* II., p. 407.—*Norduest fugl*, BOM. *Nat. Hist.* v., p. 599.—*Nuorte-ladde*, v. BIEGGUSH, *Lieur. Finmark*, p. 290.

By giving a representation of this Phalarope, besides that we add a species to the American Ornithology, we make good our promise of settling an important question. A glance at our figure of the Hyperborean Phalarope, here brought into comparison with the young Wilson's Phalarope, will at once evince the incorrectness of Mr. Ord's refined distinctions, and ultimate decision that they were the same bird. This comparison shows more conclusively than any argument to be found in our respective writings on this subject, what are the real facts. We have previously observed, when illustrating the former species, that they even differ subgenerically, and that this one alone ought to form the genus *Lobipes* of Cuvier.

The *Lobipes* of Cuvier, since called by the recent English writers Lobefoot, and on which Vieillot imposed the name of *Phalaropus*, is formed in our opinion of this single species, notwithstanding that Cuvier and some English authors include the *P. wilsonii* in it on account of its bill being similar. But the feet are too different to allow of such a

reunion, being in this one precisely similar to those of the flat-billed species.

The bill of the Lobefoot is moderate in length, slender, smooth, cylindrical throughout, and a little stoutish at base, subulate to the tip, with the point narrow and sharp: the upper mandible curves slightly upon the lower at tip, where they do not quite meet, as occurs in some *Totani*: the nostrils are not quite basal, as in the *Holopodius*, and are linear instead of the subovate form of the *Crymophilus*, or true Phalarope: the tongue is also filiform and acute, and by no means broad, fleshy, and obtuse, as in the same group. The tarsi are however longer than in this, though shorter and less compressed than in the *Holopodius*: the toes are likewise intermediate as to length between the two other groups: the middle one is connected with the inner to the first joint, and with the outer to the second; the edging membrane is broad, deeply scalloped, and finely pectinated: the hind toe is very short, only the nail touching the ground. The wings are more elongated than in *Crymophilus*: the tail on the contrary is shorter, and the general form slender, in which respect, and some others also, they bear a resemblance to *Totanus*.

The Hyperborean Lobefoot, as represented in its summer, though not its perfect plumage, is seven and a half inches long, and fourteen and a quarter in extent. The bill is less than an inch long, black, exceedingly slender, and with both mandibles remarkably acute, the upper being rather longer and somewhat inflected at tip. The irides are brown. The head, neck above, back, and wing-coverts, are very dark gray, which comes forward and round on the lower part of the neck, thus encircling the white throat: through the eye from the bill passes a broad dusky stripe to the hind head; a rufous line arises behind the eye, which dilates into a large patch on each side of the neck, the two nearly joining at the back part: the sides of the neck and throat are white, the eyelids white; the back and scapulars are of a darker color than the adjoining parts, with large spots of ferruginous on the upper part of the back, occupying the outer side of the feathers: the rump and upper tail-coverts are banded dusky and white. The sides of the breast are dark cinereous, all the remaining lower parts are white, the base of the plumage being blackish ash, which rather predominates on the flanks, giving to these parts a very dark mixed appearance. The wings are four and a quarter inches long, and when closed reach precisely to the tip of the tail; the under wing-coverts are varied with white and blackish ash; the lesser and middle upper coverts are dark blackish gray, the latter with a few white streaks at the tip of the outer one: the greater are almost blackish, and broadly pure white at the tips, which makes a conspicuous band of pure white across the wings: the primaries are blackish, slightly edged with paler, and with whitish

shafts; the secondaries are white at their base, and on the margin of their blackish tips, some of them being also white on their inner web, so that the white much predominates: the tertials are very long and wholly blackish. The tail is little more than two inches long; the feathers are blackish gray, edged with pale ferruginous at tip. The feet are of a greenish lead; the naked space on the tibia nearly half an inch; the tarsus little more than three-quarters of an inch, and precisely of the same length with the middle toe; the hind toe no more than three-sixteenths of an inch.

In old and perfect specimens, especially old females, this sex being larger and much handsomer, the back, scapulars, and wing-coverts are of a very intense shining black, the anterior part of the back and scapulars being skirted with fulvous, and the wing-coverts edged near the tip with pure white; the sides and also the inferior portion of the neck are of a bright rufous: the two middle tail-feathers are of the same deep black as the back, and the lateral ashy ones are edged with white. It will be remarked that the chief difference between the specimen figured and the quite perfect state resides in the ferruginous coloring of the sides of the neck, which does not meet on the breast, as it does quite broadly in adult birds: considerable variation takes place in this respect, which is entirely owing to the more or less advanced maturity of the bird.

The young before the summer moult are well distinguished by having the forehead, cheeks, throat, sides of the neck and neck beneath pure white, as well as all the under parts, the neck and flanks being the only parts tinged with cinereous: a slight yellowish tinge appears on the sides of the neck: the top of the head only, a band along the nucha, and a patch around the eyes are blackish gray slightly skirted with rufous: the back and scapulars blackish, each feather broadly skirted with bright ferruginous: the wing-coverts blackish, lesser margined with white; greater white at the tip: the inner part of the tarsus is yellow; the exterior and the toes of a yellowish green.

During summer this bird resorts to lakes and fresh waters, though preferring at all times brackish water: in winter they betake themselves to the sea, and are even met with at great distances from land, floating among icebergs in the desolate seas of the north: they swim still better than the other Phalaropes, and are met with farther at sea. This species is mostly seen in pairs, though sometimes in small flocks, and busily engaged in dipping their bill into the water after the minute and almost invisible animals of the ocean. They are also much on the wing, somewhat like the Gulls and Terns, and their cry resembles that of the Greater Tern.

Although the Hyperborean Phalarope is a very rare visitant in the United States, there being a few instances only of its being shot in

Boston Bay and on Long Island, it breeds regularly at Hudson's Bay; arriving there annually in the beginning of June. In the middle of this month they lay three or four eggs on a dry spot among the grass: the nest is placed on a small hillock near a pond, and contains four very small pyriform eggs, resembling those of a Snipe in shape, but much less, and of a deep olive color, blotched with dusky, so thickly as nearly to obscure the ground color. The young fly in August, and they all depart in September for less rigorous climes. In Greenland the species also arrives regularly in April and departs in September. This bird inhabits the Orkney and Shetland Islands, as well as those of the Norwegian sea, in considerable numbers during summer, breeding there. It is very common in the marshes of Sanda and Westra, but especially Landa and North Ronaldsha, the two most northerly of the Orkney Isles, in the breeding season, but leaves them in autumn for milder regions. Its favorite abode is the shores of lakes situated within the Arctic circle: it is plentiful in the northern parts of Sweden, Russia, and Norway, as well as the northern coasts of Siberia, and between Asia and America, extending its irregular wanderings even to the Caspian Sea. In Iceland it is observed to come about the middle of May, and remain in flocks at sea ten miles from the shore, retiring early in June to mountain ponds: remarkably faithful to each other, both sexes are quarrelsome with strangers, and the males are very pugnacious, fighting together running to and fro on the surface of the water while the females are sitting. The species passes regularly along the north coasts of Scotland and the continental coasts of the Baltic Sea. It appears also, though rarely, during spring and autumn in the southern Scandinavian provinces. In England it is very rare, and quite as accidental as in the United States, though it has been casually observed in Germany, France, and even on the great lakes of Switzerland: an individual was killed on the Lake of Geneva in August, 1806, the only one ever seen on that lake, where the flat-billed Phalarope is by no means so excessively rare: the specimen alluded to was killed while swimming and picking up small diptera from the surface of the water. These wanderers are always young birds; but never within my knowledge has an individual been known to stray into any part of Italy. The favorite food of this species is water insects, especially diptera, that abound at the mouths of rivers. The old ones hover round their young when exposed to any imminent danger, repeating *prip, prip*, and at the commencement of August carry them out to sea, at the end of that month being no longer to be found inland. The Greenlanders kill them with their arrows, and eat the flesh, which being oily, suits their taste: they also keep the very soft skin, making use of it to rub their eyes with, and thinking it efficacious in curing a species of ophthalmia to which they are subject.

Although the specific name of *lobata* was given first by Linné to the present species before he bestowed upon it the additional one of *hyperborea*, we have thought it proper to retain the latter, which is also Linnean, because that of *lobata* has been successively applied to each of the three species, and by Latham exclusively appropriated to another, whilst the present has never been so misapplied, and is long since unanimously consecrated to this species. By adopting the prior name of *lobata*, we should have been compelled to quote our own authority, and say *Ph. lobatus*, NOB., since *Ph. lobatus*, LATH., is the *Ph. fulicarius*, and *Ph. lobatus*, ORD, the *Ph. wilsonii*.

TRINGA HIMANTOPUS.

LONG-LEGGED SANDPIPER.

[Plate XXV. Fig. 3.]

Tringa himantopus, NOB. in *Ann. Lyc. New York*, II, p. 157. *Id. Cat. and Syn. Birds U. S.* Sp. 245. *Id. Specch. comp. sp. Philad.*

THE figure of this remarkable bird cannot fail to create a sensation among naturalists, and a careful examination may induce them to attach more importance to our subgenus *Hemipalama* than Baron Cuvier has done, and to admit that it is quite as distinct as his *Machetes*. That this has not already been done is no doubt because the real type, which is this species, was so little known. The *Tringa semipalmata* of Wilson, which we have united with it merely on account of its semipalmated toe, has no real affinity with it, but is similar to the other Sandpipers, and we should never have thought of instituting a separate group for it alone, more than for the *Charadrius semipalmatus*.

The Long-legged Sandpiper is in fact one of those beings that although intimately connected with several groups, with which they have many things in common, yet possess peculiarities sufficient to insulate them completely from all that surround them. It is very remarkable for its anomalous characters. Though decidedly a *Tringa*, it connects, still more evidently than the other species with long subarched bills, that have been placed in *Numenius* by German authors, this latter genus with its own, since to the other common traits of resemblance it unites the semipalmated toes; so that in fact instead of placing it at the head of the *Tringæ*, it should rather be arranged last of the *Numenii*, were this not forbidden by the long and delicate legs and toes, as well as some other peculiarities easier to perceive than to express by words. As a species, in form, dimensions, and especially in plumage, this bird greatly resembles *Tringa subarquata* of Temminck (*Numenius*

africanus, Lath.), from which it is however clearly distinguished by its still longer and semipalmated feet, in which latter only it resembles *T. semipalmata*. It cannot for a moment be mistaken for any other *Tringa*, differing widely from all, and by a complication of anomalies resembling more in general garb and plumage a *Totanus* than a *Tringa*.

We are unable to say much of the habits of this curious Sandpiper, further than that we met with it in the month of July, 1826, near a small freshwater pond at Long Branch. Being there in company with my friend Mr. Cooper, we observed a flock flying about, at which I fired, and killed the one here represented. On first picking it up, I mistook it for a time for *T. subarquata*, a species very rare in the United States, though one of the most common in Italy, but was undeceived upon observing the web between the toes. This is the only specimen I have ever seen, though the gentleman just mentioned informs me that he has recently procured another that was shot in the month of May on the south shore of Long Island.

This new species is nearly nine and a half inches long. The bill, much longer than the head, is decidedly subarched, and measures one inch and five-eighths, and is black. The general plumage is of the same gray color usual in other Sandpipers: the crown is dusky, mixed with whitish and blackish, and with a little bright rusty on the margins; a broad whitish line is above the eye; between the bill and eye dusky, a patch of rust-color on the auriculars: the neck above and on the sides is mixed with whitish; the back and scapulars black, the feathers tipped with dusky gray and marked with pale rusty: the rump is plain dusky gray, and the upper tail-coverts white, regularly banded with black. The throat is whitish, obsoletely dotted with blackish; the whole under surface is then, including the tail-coverts, white, each feather being banded with blackish, and one of the bands terminal. The wings are five and a half inches long; all the coverts plain dusky with lighter margins; the under coverts are marbled with blackish and whitish: the primaries are blackish, the first with a white shaft; the secondaries are pale dusky, edged with whitish. The tail is gray, even, and two inches long, the two middle feathers are acute, projecting beyond the others the length of their points; the outer on each side is also somewhat longer than the others: all are pale dusky with white shafts, the white spreading somewhat along the middle, but particularly at the base, where all the feathers but the middle ones are white, as well as the two outer also on the greater part of their inner vane. The feet are black, and the legs very long: the naked space on the tibia one inch and a quarter: the tarsus one and three-quarters long: the middle toe is very nearly one inch without the nail, and about as much over an inch including it: all the front toes are half-webbed, that is with a membrane connecting them at base.

CHARADRIUS SEMIPALMATUS.

YOUNG SEMIPALMATED PLOVER.*

[Plate XXV. Fig. 4.]

Charadrius semipalmatus, NOB. *Obs. Nom. Wils.* Sp. 219. *Id. Cat. and Syn. Birds U. S.* Sp. 216. *Id. Speech. comp. sp. Philad.* CAUP, *Isis*, XII., 1825, p. 1375, t. 14 (the head and foot). WAGLER, *Syst. Av.* I., *Charadrius*, Sp. 23.

THE credit of first pointing out the curious though obscure character which distinguishes the present bird from its very near relative the *Ch. hiaticula* of Europe, is due to Mr. Ord, and after verifying it in all our American specimens, we feel satisfied that the true *hiaticula* does not inhabit this continent, and those authors who have recorded it as American, must have mistaken the present species for it: we might therefore have swelled our limited list of synonymes with quotations of all their American specimens described under this name. The species was first established in our "Observations on the Nomenclature of Wilson," and in our "Synopsis," and nearly at the same time by Mr. Caup also, on a single specimen in the Museum of Darmstadt, whose origin was doubtful, but the real one suspected. By a fortunate coincidence, Mr. Caup and myself were led to select the same appropriate name for our bird, which is the less extraordinary, as being suggested by so material an anomaly in the characters; Natural History conducting us in this instance to the result of one of the most exact sciences.

The distinctions between the three European species of Ring-Plovers having been until lately but little understood, it is not to be wondered at if those inhabiting these states were not at once well established: North America counts also three, independently of the Kildeer, and several others not yet properly determined inhabit other parts of the world.

Being now regarded as a new and very distinct species, we have not hesitated to reproduce of its natural size a bird that Wilson has already represented reduced one-half; but his figure of the adult being remarkably good, we have thought it best to give the young, with the subjoined description, referring the reader for other particulars to the accurate account of our predecessor.

The Young Semipalmated Plover is seven inches long, and fourteen in extent: the bill is almost entirely black, being destitute of orange,

* See Wilson's *American Ornithology*, Ring-Plover, *Charadrius* (*Tringa*, by a typographical error) *hiaticula*, vol. II., p. 357 (ORD's ed. p. 69), pl. 59, fig. 3, for the adult in spring dress, and the history.

and with no more than a little dirty yellowish flesh-color at the base of the under mandible. The frontlet, continued into the lora, and dilating broadly on the auriculars, is of a darkish gray color, somewhat tinged with brown: a frontal band obscurely continued over the eyes is white; there is no sincipital black band: the top of the head is grayish brown down to the neck, which color unites and forms a single mass with the auriculars already described: the throat to the very origin of the bill, and all the under parts, are pure white, with the exception of a collar on the breast, which, as a continuation of the color of the back, is of a brownish gray: the white encroaches somewhat upon the middle of this collar on the lower side; and extends in a broad ring all round the neck: after this collar, the whole upper parts of the body are brownish gray, precisely of the same hue as the top of the head, and like it have each feather slightly edged with pale. The wings are four and three-quarter inches long, exactly reaching the tip of the tail, the smaller and middle coverts and tertials are of the color of the body; the larger are darker, white at the tips, and they form a conspicuous band across; the spurious wing and under wing-coverts are white, somewhat mixed with dingy: the quill-feathers are dark gray, blackish at their point, and on their outer web: the shaft of all is white towards the middle, and the secondaries have moreover a white spot along it. The tail is two and a half inches long, slightly rounded: the outer and shortest feather is white, with a small elongated spot towards the middle of its inner web; the second each side has a much broader and darker one extending on both webs, dingy at base and pure white on the shaft and at tip only: all the remaining ones are dusky at base, with a broad black space towards the point, and are terminated with white, less pure and less extended according as they are nearer to the true middle ones, which are merely edged with whitish. The feet are yellowish; the tarsus is almost an inch long, and the middle toe three-quarters; the outer is connected to the second joint with the middle one by a membrane; and the inner is also connected with the middle, but no farther than the first joint.

In the adult, well described by Wilson, the bill is orange beyond the middle, black at the point: the margins of the eyelids are orange: the irides are brown: the front, throat, neck broadly round, and all beneath pure white: the head is of a gray color, somewhat tinged with reddish: a broad sincipital band, and a broad ring round the base of the neck jet black: lora, continued through the eye into a broad patch dilating on the auriculars, blackish: the back and wing-coverts are rufo-cinereous: the quills are blackish, the fifth, sixth, seventh and eighth being white along the shaft: the secondaries are rufo-cinereous, white at the tips: the tail is blackish, and quite black towards the point; the outer tail-feather is white, the second, third and fourth being also white at their tips.

In size, this species comes nearest *Charadrius curonicus* (*minor*) of Europe, but in color and all else most resembles *C. hiaticula*.

On the coasts of New Jersey, this species arrives late in April, keeping then in flocks, and until late in May, when they depart in search of more northern climes. No instance is known of their breeding in the United States, but their flocks reappear periodically in September, protracting their stay till the last of October. They run with rapidity, uttering a rather hissing short note, resembling the syllable *thyk, thyk*. It is a remarkable fact that these closely related species of Ring-Plovers, hardly cognisable at a distance by the eye, are at once detected by a practised ear, their note being so very different. For who could mistake the hissing voice of the present for the soft and musical tones of the Piping species, so happily compared by Wilson to a German flute? It is equally well known that the species of Europe differ also in this respect from each other, the true *hiaticula* having very nearly the same hissing voice as the Semipalmated, whilst the *curonicus* has a very melancholy cry, resembling *kirw! kirw!*

ARDEA PEALII.

PEALE'S EGRET HERON.

[Plate XXVI. Fig. 1.]

Ardea Pealii, Nov. in *Ann. Lyc. New York*, II., p. 155. Id. *Cat. Birds U. S. in Contr. MacL. Lyc.* Id. *Syn. Birds U. S.*

AMONG the numerous and still badly known tribes of Herons—a genus which even as reduced according to the sounder views of modern authors, yet consists of about fifty species, spread pretty nearly in equal numbers over all parts of the world—a small group has been distinguished in common language before it was recognised by naturalists, under the name of Egret, and it may be admitted into the system as a secondary division of the subgenus *Ardea*, as this is distinguished from *Botaurus*, *Nycticorax*, &c. Their elegance of shape, long and slender bill, but especially their snowy whiteness, and the flowing train of plumes by which they are adorned in a perfect state, make them easily cognisable even at a distance, and seem fully to entitle them to such a distinction. But this very similarity, as one may well imagine, renders the several species, for there are several of them, liable to be easily confounded together. Besides their remarkable similarity of form, colors are wanting to discriminate them; and we are reduced to those exhibited by the bills, legs and feet, to the proportions of the bird and its respec-

tive members, and to the nature of the plumage of the crest and trains that ornament the adults. The privation of these ornaments in the young, and in the adults also when moulting, increases the difficulty, and has caused them to be taken until lately for distinct species: fortunately this source of confusion has been removed; and the females have been ascertained to be similar to their males. The species of Europe and Northern Asia were therefore upon good grounds reduced to two, the Great and the Small, *A. alba* and *A. Garzetta*; but both formerly, and one even till now, were confounded with their two American analogues described by Wilson. In my "Observations on the Nomenclature" of that author, as well as my subsequent writings, without excepting my Synopsis, I admitted the two North American species, and added as a third, the bird now represented in our plate, but I also erred in considering the large American species as the same with the large European: they are in fact no less distinct from each other, however closely related, than *Ardea candidissima* and *A. Garzetta*. The name of *alba* belongs to the European, and that of *egretta* to the American; although Illiger, Lichtenstein, (and Temminck?) not perceiving that it was the legitimate *egretta* of Gmelin and Latham, and having applied that name to the European *alba*, have given the American the new one of *A. leuce*.

Mr. Ord, in the second edition of Wilson's Ornithology, was therefore right in doubting the identity of the two species, and I was mistaken when I declared his doubts unfounded: but he ought not to have quoted as synonymous *A. egretta* of Temminck, &c. Indeed, I am unacquainted with a single instance in which upon due examination the rule will not hold good, that no bird is common to both continents that does not inhabit during summer the high northern latitudes, and the *Ardea alba* and *A. egretta* are not winter birds, but on the contrary summer visitants of Europe and the United States, and do not even then range far to the north: the European moreover is chiefly found in the east, and hardly ever seen in the west of that continent. This alone ought to have led us to detect the discrepancy. In order to clear up this point before taking up the species which more immediately forms our subject, I think it proper to fix all the species of Egrets of which I have a perfect knowledge. These are:—

1. *Ardea alba*, L. (*Ardea Egretta*, Temm., *Ardea candida*, Briss.), which can easily be distinguished by its large stature, combined with a small crest (which is wholly wanting in the American), a much longer bill and longer tarsi, and the fusco-corneous color of the legs. It is well figured by Naumann, Vog. Nachtr. tab. 46, f. 91, and the young by Roux, Ornithologie Provençale, pl. 314 (under the name of *Egretta*). It inhabits Europe, especially the oriental parts, and is very common in the Caspian Sea, in Asiatic Turkey, &c.

2. The second species is *Ardea Egretta*, Gmel. Lath. (*Ardea leuce*, Temm.), the one figured by Wilson, whose tall stature allows it to be confounded with the preceding, from which, however, it may be readily distinguished by its perfectly smooth head, its light orange and shorter bill, and black legs. It is found both in North and South America, being mentioned by d'Azara, and we have ourselves received it from Surinam.

3. The third is *Ardea flavirostris*, Temm., not yet figured. A smaller bird, with black legs also, at once known from its two above-mentioned close analogues; from the European by its yellow bill, from the American by its small crest. It is found in Southern Africa and the Australian Islands.

4. The fourth Egret in point of stature is the one we are treating of, well distinguished by its bill, which is flesh color at base, besides the different texture of the ornamental feathers.

As a fifth species we shall cite the *Ardea candidissima* of Wilson, which is the analogue of the *Ardea Garzetta* of Europe, figured by Roux, Orn. Prov. pl. 315. Both these are alike in stature and dimensions, and differ only, as is well known, by the crest, which in the latter consists of but two or three elongated, narrow, subulate feathers; while in the American the crest is formed of numerous elongated pendulous feathers, with loose flowing barbs.

Specimens that we have received from Java under the name of *Ardea nigripes*, Temm.; we consider as the young of *A. Garzetta*, and are confirmed in this opinion by the fact of young birds that we possess of the American *candidissima* that stand precisely in the same relation to this species that the supposed *nigripes* does to the *Garzetta*.*

The family of the *Herodii*, *Cultriostres*, or *Ardeidæ*, especially when the group *Gruinæ* is withdrawn, and restricting it to our former *Ardeinæ*, is a highly natural one. It still comprises, it is true, many aberrant genera, birds of peculiar forms, and remarkable for their strange and oddly shaped bills, though still not so far different as to rank them more properly with any other class; and in their general structure, as well as their habits and dispositions, too much identified with these to justify their separation into an independent family. But the *Gruinæ*, of which the Crane is the type, bear a strong analogy, and even in many respects so much affinity to the Gallinaceous birds, having shorter feet, vegetable food, and even their habits being terrestrial, that we think proper to unite them as a subdivision or subfamily with the *Alectridæ*. The artificial character (which, as we are not now treating of them, is all that

* I have lately been informed of the discovery of two new European species of Egrets, one from Sardinia, the other from Moldavia, of which the names and characters are not yet given.

need be mentioned) by which they may be at once distinguished from the *Ardeidæ*, consists in having the hind toe short, and inserted so high up as to be raised from the ground except merely at the tip; while in the *Ardeidæ* it is long and bears with its whole length on the ground, or nearly so. But as, according to the axiom of the great Linné, the character does not constitute the genus, even if the most general and characteristic mark should fail us, it is still no reason why the group is not natural which it has hitherto been believed to represent. A minute peculiarity may furnish a most useful though artificial generic or specific character, while an apparently important and evidently natural one may be of no use for this purpose. In our system the family *Ardeidæ* is composed of nine genera, of which none is subdivided except *Ardea* itself, which with *Ciconia* are all that are strictly typical. Besides the more direct relations, this family is connected with the *Rallidæ* by the curious though anomalous Courlan, also allied to the *Gruinæ* by its feet, as well as to the *Scelopacidæ*. But to these the genus *Eurypyga* forms a very strongly marked and still better passage. At the same time the *Platalea*, which in its feet shows the transition to *Phænicopteridæ*, and by its curiously flattened bill stands alone, is so similar in internal conformation, and especially the sternal apparatus, to the genus *Ibis* that they ought in this respect to go together; though *Tantalus*, one of the *Ibidæ*, is constructed rather upon the osseous plan of the *Ardeidæ*! *Scopus*, *Anastomus*, *Canchroma*, and even *Dromas* to a minor extent, each and all exhibit striking anomalies in their bills, so that *Ardea* and *Ciconia* are the only two typical genera with sharp-pointed bills of the whole group. In order to comprehend all these forms of bills, it becomes necessary to restrict greatly the physical characters of the family, and we can merely observe that in the *Ardeidæ* the bill, whatever be its form, is longer than the head, very robust, and almost always sharp, with cutting edges. The neck is long. The feet long, and always four-toed, the hind toe strong and well developed: the tarsus is longer than the middle toe, and toes and nails both are also long. The wings are of moderate length, and obtuse. The tail is never long, nor otherwise remarkable, and consists of twelve, or only of ten feathers.

There is no marked external difference between the sexes, but the young vary greatly from the adults, and do not gain their complete plumage till their third year.

In habits and internal conformation these birds are all much more alike than in external. They have all a grave, deliberate, and well poised gait: their flight is slow, though light and elevated, and they stretch back their legs like sticks in flying, even more so than other Waders. They are faithfully monogamous in their loves: their nests are built with more art than those of aquatic birds generally, being

placed in trees, thickets, aquatic grasses, and some of the species, half domesticated, even nestle on house tops: the female incubates, while the male merely watches and supplies her with food. Both unite in nursing and rearing their young, which remain in the nest until they are full-fledged. The flesh of these Waders is quite unpalatable.

The genus *Ardea*, when disembarassed of the several species forced into it by ancient authors, is a very natural one, differing from the Storks by having the inner toe cleft, whilst they have all the toes semi-palmated at base: the Storks also have the tarsi reticulated, and the middle toe-nail entire, whilst the Herons have the former scutellated and the latter toothed like a saw, to assist in seizing and securing their slippery prey. A peculiarity of the Herons, in which they not only differ from the Storks, but from all other birds, is found in their anatomy: they have but one cæcum, like quadrupeds, while other birds have two. The genus *Ardea* is admitted by all authors, though some modern writers have cut it up into several, which we employ as sub-genera, or groups of still minor importance. Generally divided into three, and by Boie into five, they might with the same propriety be carried to seven or eight; we recognise no more than three, comprising eight secondary groups. The first, which we call more properly Heron (*Ardea*), is well distinguished by its long and slender neck, all well clothed with shortish appressed feathers; and by having a very large part of the tibia naked.

The second, called Bittern (*Botaurus*), has the neck shortish, with loose, longish feathers, and the posterior more or less distichous and lanuginous: the naked part of the tibia is much limited.

In all the Herons the bill is more or less longer than the head, cleft to beneath the eyes, straight, compressed, conic-elongate, acuminate and very acute, higher than wide, and more or less robust. Both mandibles are near their base covered with a kind of very thin cere or membrane: the upper is scarcely longer than the lower mandible, and equal in height: it is longitudinally impressed on the sides with a straight furrow obliterated before: the upper ridge is therefore rather distinct and flat at base, terminated by the frontal feathers transversely placed; towards the point the ridge is perfectly smooth, compressed, and slightly and gradually inclined at tip: the edges, nearly vertical, in some species are perfectly entire, in others obliquely and finely denticulated, in all emarginated at the extreme tip: the palate has in the middle a longitudinal sword-like process, perfectly straight, which towards the throat is more or less conspicuously doubled: the lower mandible has strong and flattened sides, more or less impressed towards the base; it is sharply acute, with the edges drawn in, excessively sharp, quite straight, either entire or slightly serrated obliquely: the inferior ridge is slightly compressed, rather acute, and more or less ascending; the mental angle

is extended beyond the middle of the mandible, is exceedingly narrow, very acute, and feathered: the lora are naked, as well as a portion of the orbits. The nostrils, not quite basal, are placed in the furrow, and are linear, longitudinal, pervious, and above half closed by a naked membrane. The tongue is half the length of the bill, acute, very entire, narrow, membranous, and rather flattened. The body is much compressed. The feet are equilibrate, long and four-toed: the tarsus is always longer than the middle toe, sometimes barely so, sometimes a great deal: in some species the tibia is almost entirely naked, whilst in others it is on the contrary nearly all feathered: the toes are elongated, slender, narrowly bordered by a membrane, all unequal; the middle is connected to the outer one by a membrane that extends to the end of the first joint; the inner toe, a little shorter than the outer, is merely furnished with a very minute basal membrane: the hind toe is long, half equal to the middle one, and all bearing on the ground, being inserted opposite to the inner toe: the nails are compressed, falcate, the hind one largest: the middle one is dilated on the inside into a pectinated sharp edge. The coverings of the tarsi are transversely clypeate, the upper and lower clypei being scutelliform, the opistotarsus and knee are covered with small hexagonal scales; the toes are scutellated. These various forms of the scales are represented with inimitable accuracy by Mr. Lawson in the plate of Peale's Egret. The wings are broad, obtuse, tuberculated, the three outer primaries being longest, and the third hardly shorter than the two first. The tail is short and obtuse, and composed of ten or twelve feathers. The feathers of the lower neck before in the adult bird are pendulous, elongated, mostly acuminate, narrow or ragged: on the occiput and back they are in many species elongated, sericeous, either linear, or laciniate-lacerated, seldom dense, oblong or rounded at the end; the neck is bare at base on the sides, but concealed by a tuft of longish plumes originating at the shoulders: the neck-feathers in some species are short and closely pressed to the body; in others they are softer, longer, especially on the sides, and woolly at base: the tail-feathers are always rounded at the end; those of the lower parts of the body are longish with the webs disjoined, and the barbs plumulose at base: the down is silky.

The females are like the males: the young are different from the adults, only obtaining their full plumage after the third year. They moult annually. The adults are ornamented by long slender feathers, which they lose in moulting, and do not acquire again for some time, when they resemble the young.

These birds are remarkably dull: they inhabit marshes, or watch perched on trees near the water for their prey, which the conformation of their feet enables them to do with ease. They feed exclusively on animals, especially fishes and reptiles, but likewise large insects, and

even small mammalia. They often stand motionless on the margins of ponds or marshes, concealed by the tall grass and weeds, with the neck so bent as to rest the head on the back, waiting patiently for their prey to pass within their reach, when they dart forward their sharp bill with inevitable aim: but when tired of this, which is often unsuccessful, they overcome their natural indolence so far as to move slowly through the mud or water, stirring up as they walk by means of their long toes the frogs or fishes that may be lurking in such places. Timid and cowardly to a great degree, the smallest Hawk will turn their flight and often master them, though capable of inflicting a dangerous blow with their powerful beak. They build in companies in high trees, laying about four eggs. The parents are, to a proverb, tender of their offspring, and carefully provide for them during the long time that they require their assistance. Their voice is loud, hoarse, and monotonous, and heard chiefly at night, when most of them are in motion. Their flight is full of grace, and is performed with the neck bent backwards, and the head resting against the back.

The numerous species of this genus are dispersed over all climates and countries excepting the very coldest. In no group does the size vary to the same extent, as is exemplified in the American species by the gigantic *Ardea herodias* and diminutive *Ardea exilis*.

The Herons properly so called, forming our subgenus *Ardea*, of which the group *Egretta* is a subdivision, have the bill much longer than the head, at base as broad, or even broader than high, and quite straight. Their neck is very long, slender, and ornamented beneath with slender, elongated, pendent plumes: their flanks are thin, their legs very long, and have an extensive naked space above the heel.

They are more diurnal than nocturnal in their habits, are the tallest of the genus, and for the most part feed on fishes. There is scarcely a fish, however large, that a Heron will not strike at and wound, even if unable to carry it off. They both seize them in shallow water by darting their bill, or in deep water by plunging it under as they pass on the wing: they are therefore extremely injurious to fish-ponds, which they devastate to an incredible extent, and consume so great a quantity that a single Heron will destroy in a year several thousand large fishes, without taking into account the small fry which are their chief dependence. Even when gorged with prey, these greedy birds will sit meditating further mischief, with their long necks sunk between their shoulders, and their heads turned to one side, intently eyeing the pool; and their extraordinary power of digestion soon enables them to recommence their task. But like other lean and hungry gluttons, the Heron is never satisfied, his food avails him not, and he is generally an emaciated mass of skin and bones. They do not hide themselves in grassy places, nor attempt to escape danger by retreating to them, but on the contrary

are careful to seek their prey where the weeds are not too high to prevent them from observing the approach of an enemy, to escape whom flight is their only resource. Highly social in their disposition, they travel, fish, and keep together in parties, and build on trees or hanging cliffs, hundreds in company, in retired haunts, where they may expect to enjoy perfect quiet and security. Several of these retreats are celebrated both in America and Europe. The naturalist whose courage and perseverance enable him to penetrate the swamps, and a thousand difficulties that surround one of these recesses, and render them nearly inaccessible, is amply repaid by the astonishing spectacle he witnesses. He finds every branch, every fork, the top of every bush covered with the nests of these birds; and the ear is stunned with the cries and flapping of the wings of the alarmed multitude. The parents, and such of the young as can fly, at once depart, their numbers obscuring the sky: but their attachment for their offspring overcoming their fears, the parents soon return to their defence, and boldly attack any enemy, so that even the blows of sticks, or the report of the fatal gun has no terror for them. Their nests are made with sticks, and lined with wool; but if they find a nest already made, they do not take the pains to build a new one. Their young are as voracious and hard to satisfy as themselves.

The Egret Herons are entirely of a snowy whiteness, without any colored markings on the plumage whatever. We even exclude from them the *Ardea russata* that visits occasionally the south of Europe, and possesses when adult in the greatest degree the long flowing ornamental plumes. This, with the *ralloides, speciosa* of Java, &c., we consider as forming a group equivalent in rank to Egret, and we apply to it Boie's name of *Buphus*.

Our second subgenus, *Botaurus*, including the Bittern, Night Herons, and other groups of authors, is characterized by the bill being hardly longer than the head, much compressed, higher than broad, with the upper mandible somewhat curved. Their legs are comparatively short, and the naked space on the tibia restricted: their neck is rather short, thickly and closely covered with long, broad, and loose erectile feathers, and merely downy above: their body is comparatively plump, even fleshy, and sometimes good eating. They are chiefly nocturnal, and haunt in marshy and sedgy places. Their food is principally reptiles, insects, worms, fish-spawn, and they even eat vegetables, and are not by any means so destructive as the Herons proper, nor so skilful at fishing. The birds of this subgenus never sit in open places, but on the contrary keep concealed amongst the highest reeds or grasses, and if an enemy approaches their retreat, they either squat on the ground, or escape between the reeds, and never resort to their slow, heavily raised flight, but in the last extremity. Instead of high trees, the Bitterns

place their nest in a sedgy margin, or among the rushes; and instead of sticks and wool, they are contented with simpler materials, such as sedge, leaves of water-plants or rushes; and they lay seven or eight eggs, twice the number of the true Herons. The young do not require for so long a period the parental care, but on the contrary follow the mother after a few days. When excited, the Bitterns have a curious mode of erecting their loose neck-feathers, causing it to appear very much enlarged. Although well defined as a group, these birds are connected with the true Herons by means of intermediate species that might with propriety be placed in either: as an example of the intermediate species more allied to the Herons, we might quote the beautiful *A. ralloides* of southern Europe, which we look upon as the type of the group *Buphus*. Of those nearer to *Botaurus*, *A. virescens* is an example, with the form of the Herons, but the plumage of the Bitterns: we establish it as the type of a natural though secondary group, to which we cannot do better than apply the name of *Herodias*, proposed by Boie. In the subgenus *Botaurus* also, nature has pointed out several small sections, of which nomenclators have eagerly availed themselves: as among the Herons we have noticed the Egrets, Herons proper, *Herodias*, and *Buphus*, we may also indicate the *Nycticoraces* among the Bitterns, which are distinguished by wearing in the adult state long, tapering occipital feathers; and the *A. stellaris* of Europe, together with its close analogue, *A. minor* of Wilson, may be regarded as the types of a similar small group: another group hardly distinct had been called *Crabier* by the French, but without any fixed character: we have divided these *Crabiers* into two groups, and made them regular by arranging them near the limits of our two subgenera: the larger striated species of *Bitterns* have also been called *Onorés*, (*Tigri-soma*, Sw.)

A third subgenus, which we first instituted, and called *Ardeola*, contains only three species, the smallest of the tribe, and closely allied in form and even markings: one is the European *Ardea minuta*, the other the American *Ardea exilis*, and the third a still less, the New Holland *Ardea pusilla*. In these the female differs somewhat from the male, and the young is different from both. The bill of these small Herons is much the same as that of the true Heron, being longer than the head, higher than broad at base, and with the upper mandible nearly straight: the neck likewise is elongated and rather slender; but, as in the Bitterns, it is merely downy above, and thickly covered on the remaining parts with long, loose, and broad erectile feathers: the body is slender, and exceedingly compressed, like that of the Rails, of which they remind one: the legs are comparatively short, but what strikes most as a circumstance extraordinary in the Waders, their tibiae are

completely feathered, as in the Woodcock and the land birds: the membrane that unites the toes is moreover simply rudimental.

These birds, which are chiefly nocturnal, have much of the habits of the Rails. They live and propagate in marshy grounds, hiding closely amongst the reeds, and running far and very fast in them rather than take wing. They feed on small fishes, reptiles, spawn, but more especially on water insects.

Returning to our Egret, whose claims to be considered new have been set forth in the first page of this article, we have to state that it is dedicated to Mr. Titian Peale, by whom it was first shot for us in Florida, as a just compliment to a naturalist to whom American Zoology owes so much, and from whom so much may still be expected, retaining as he does all that zeal for science for which his family has been long conspicuous.

We regret not being able to relate any peculiarity in the habits of this bird, which besides Florida, inhabits other analogous climates of America. It is never seen in the Middle States, but appears not to be rare in Florida, for since the individual first brought by Mr. Peale, we have observed it in almost all the collections of birds sent from that country.

Peale's Egret Heron is twenty-six inches long: the bill five inches, flesh-color for nearly three inches from the base, then black to the point; the lora and naked parts of the face are of the same flesh-color, but more delicate: the plumage is uniformly and without exception snowy white, as in all the Egrets: the head nearly from the origin of the bill down to the neck, is thickly and densely set with a large crest, formed of numerous, compact, subulate feathers, more than three inches long; a bunch of these feathers, precisely of the same texture, and even longer, hangs down from the front part of the neck. The structure of these feathers most resembles that of the corresponding plumes of the *A. Garzetta*, and is totally different from those of the *candidissima*. The long flowing plumes of the back are filiform, or criniform, rather than silky, being by no means delicate, and reach much beyond the tail, with their rays quite straight and rather stiff, and by no means curled, nodding, or divaricate, as in the *candidissima*. The wings are thirteen inches long: the tail is four. The legs, including the toes and nails, are all black, the toes yellow beneath: the nakedness of the tibia extends more than three inches: the tarsus is full six inches long, that is, twice as long as the middle toe and nail: the hind toe without the nail measures more than an inch.

The young is distinguished by smaller proportions, a circumstance for which this group is more than usually remarkable, and by the absence of the ornamental feathers: we have, however, always observed, even in very young specimens, the tendency of the head-feathers to be long and pointed to a considerable extent, indicating the future crest.

ARAMUS SCOLOPACEUS.

SCOLOPACEOUS COURLAN.

[Plate XXVI. Fig. 2.]

Ardea scolopacea, GMEL. *Syst. Nat.* I., p. 647, Sp. 87. LATH. *Ind. Orn.* II., p. 701, Sp. 89, a very bad description.—*Aramus scolopaceus*, VIEILL. *Nouv. Dict.* VIII., p. 300. ID. *Gal. Ois.* II., p. 134, Pl. 252. NOB. *Ann. Lyc. New York*, II., p. 135.—ID. *Specch. Comp. sp. Philad.* ID. *Cat. and Syn. Birds U. S.* Sp. 237.—*Aramus Carau*, VIEILL. *Nouv. Dict.* VIII., p. 301.—*Rallus Guarauna*, ILL. (*mentio duntaxat*).—*Rallus gigas*, LICHT. *Berlin. Vög. Verz.* p. 79, Sp. 815.—*Rallus ardeoides*, SPIX, *Av. Brasil*, II. Pl. 91.—*Rallus giganteus*, NOB. *Add. Orn. U. S. in Journal Ac. Nat. Sc. Philad.* V., p. 31.—*Nothorodius Guarauna*, WAGLER, *Syst. Avium*, I., Sp. 1. GOLDFUSS, *Nat. Atlas, Aves*, Pl. 239.—*Courliri Courlan*, VIEILL. *loc. cit.*—*Guarauna*, MARCGR. *Brasil*, p. 204.—*Courlan ou Courliri*, BUFF. *Ois.* VII., p. 442. ID. *ed.* 1783, VIII., p. 266. ID. *Pl. Enl.* 848.—*Carau*, d'AZARA, *Voy.* IV., p. 223, Sp. 366, an excellent description.—*Scolopaceous Heron*, LATH. *Syn.* V., p. 102, Sp. 79. ID. *Gen. Hist.* VIII., p. 135, Sp. 116.

HERE is a bird, which, if any, might be considered as partaking of a double nature, some authors having regarded it as a Heron allied to the Rails, and others as a Rail somewhat analogous to the Herons. But notwithstanding these more striking affinities, and many besides that shall be carefully pointed out, for it is not contented with these, it fully deserves to constitute a genus by itself. After due consideration, therefore, we have withdrawn it from the Rails, where, unconsciously coinciding in this with Spix, Illiger, and Lichtenstein, we at first arranged it; and finding the genus *Aramus* already proposed for it by Vieillot, willing as we are to admit it to this rank, we do not hesitate a moment to adopt his name, and although we must acknowledge ourselves equally unable with Dr. Wagler to explain the meaning or etymology of the word, we do not think this any reason why we should, with the German ornithologist, apply to this bird a new compound signifying *Spurious Heron*.

It was supposed that South America might furnish us with a second species of Courlan, but it being now a well ascertained fact that the *Carau* of d'Azara is the same as the *Guarauna* of Maregrave, the bird must stand alone in his genus unless new discoveries shall supply him with a companion. This being settled, we shall proceed to give a minute description, that will therefore comprehend both its generic and specific characters.

Although there can be no doubt that our bird is the *Guarauna* of Maregrave, it would be committing a great error to take it for the *Scolopax* (or *Nymenius*) *Guarauna* of systematical writers, that being

a very different bird, a species of genuine *Ibis*, which they ought to place under their *Tantalus*, and which has nothing in common with our bird except a somewhat similar speckled appearance, the only source of all this confusion.

Instituting a genus for this bird does not however decide the question where it ought to be placed, for it may still be inquired in what part of the system shall we arrange the genus. The reader cannot fail to be surprised that we, who made a species of Rail of the same bird, should place it, as a genus, in a very distant family. But this is the result of more mature reflection, and however apparently remote may appear to be at first sight the two families *Rallidæ* and *Ardeidæ*, we have already seen that the subgenus *Ardeola* claims some analogy with the former, and the *Aramus* forms a still better and closer link. It was principally on account of the greatly compressed form of its body that we called it a Rail, and upon well examining the singular form of its bill, which is not observed in any other bird, every ornithologist will be satisfied of the propriety of the course we have finally adopted. We have no hesitation in placing it in the *Ardeidæ*, where it is eminently distinguished from all its fellow genera by its toes cleft to the base and entirely separated. Together with *Eurypyga*, it aberrates somewhat towards the *Scolopacidæ*, whilst by the manner of insertion of its hind toe, it tends a little towards the *Psophidæ*, subfamily *Gruinæ* (Cuvier even going so far as to make it a genuine *Grus*), and claims again a well-founded resemblance to the most typical form of the genus *Rallus*.

The Scolopaceous Courlan inhabits principally Cayenne, Brazil, and Paraguay, where it is rather common: it is numerous in the Island of Cuba, and other warm parts of America. In the United States, Florida appears to be its most natural residence, and a few instances have occurred of its visiting the Middle States. The Courlan leads a solitary life, or at most keeps in pairs; night and day they cry out in a loud, sonorous, and resounding voice, *Carau!* being in the full sense of the word a *Crying-bird*: its chief food is mollusca, and other aquatic animals, and even frogs; but not snakes nor fishes: when frightened they move their tail. Like all solitary and reserved characters, this bird is remarkably shy: it carefully hides itself, but as soon as aware of being discovered it starts rapidly to a great elevation, its flight being long continued: they walk also with great agility, but never willingly wade into the water: they alight on the very summit of trees: they build in the grass near stagnant water, concealing their nest with much art: they lay but two eggs: the young follow their parents soon after they are hatched; and are covered with blackish down, the throat only being whitish.

The specimen figured was a female, killed on the fifth of February

by Mr. Titian Peale, at Key Tavernier, on the Florida reef. Mr. Peale took it for the much disputed Crying Bird of Bartram. Mr. Peale saw no other individual, but that we have described was brought by Mr. F. Cozzens from Florida: one or two killed on the coast of New Jersey near Long Branch may be seen in the American Museum at New York. Mr. Peale did not hear the bird utter any sound; it was very unwilling to fly, and caused him some trouble to make it rise from the thick mangroves and other bushes where it kept. It appears to inhabit the low shores and swamps of the rivers and lakes of Florida, and perhaps Georgia, being merely a straggler north of this. Even there we must conclude it to be rather a scarce species, as Mr. Peale could never get information about it, and even upon showing it to the most experienced sportsmen, they declared themselves unacquainted with it, except a few who called it Indian Hen, as they probably would any other rare bird of its size. It runs through the grass exactly in the manner of the Rails, compressing its narrow body to pass through a small hole, and very difficult to catch when wounded.

The Scolopaceous Courlan is two feet and three-fourths of an inch long, and three feet eight inches in extent. The bill, which has but a small gape, and by no means extending like that of the Herons to beneath the eyes, measures four and three-quarter inches in length: of course it is no longer than the head, and may be called much lengthened; it is slender, quite straight, much compressed, being more than thrice higher than broad, and of a corneous consistence: the upper mandible is of equal height almost throughout, slender, from the base to the middle it is compressed, and channelled each side with a deep furrow covered by a kind of cere-like membrane; from where the furrow ends it swells slightly on each side, being there quite smooth, and even appearing polished: there is no vestige of a notch, as in the Herons, and the margins are perfectly entire: these margins from the middle to the angle of the mouth are revolute inside and obtuse, towards the tip they are nearly vertical and acute, forming throughout inside a straight medial channel; the upper ridge is somewhat depressed at base, then slightly inclined to the tip, being obtuse, and nowhere sharp: the lower mandible at base and beyond the middle is of nearly equal height, straightish in the middle; on the sides at base it is covered by a very thin membrane, and slightly furrowed lengthwise; from the middle to the point it is as smooth and polished as the upper one, excessively compressed, with the ridge prominent, rather acute at tip, the margins are perpendicular, approximated, very entire; the bifurcation of the sides is very long, extending beyond the middle of the mandible; it is narrow, and the mental angle formed by it naked, acute, entering the corneous substance of the bill. The nostrils are placed rather distant from the base, and in the lateral furrow, they are entirely perforated,

longitudinal, and somewhat elliptical: the tongue is elastic, narrow, and acute. The bill is yellow at base, and of a corneous blue-black at tip: the eyelids are yellow, the iris brown: the legs pale lead-color, and the nails black.

The feet are elongated, and much of the tibia naked, the bare space measuring three inches: the tarsus, four and a half inches long, much exceeds the middle toe: the four toes are slender, all cleft from the base, long, unequal, and compressed; the inner is a little shorter than the outer, the middle longest, measuring three inches without the nail; the hind toe is rather more than one inch, and slender: it is inserted in an unusual manner, opposite to the base of the inner toe, but much higher, and with only the last joint, which is very short, resting on the ground. The unfeathered part of the tibia is covered behind with transverse scutella, the anterior with large angulose scales; the tarsus behind has a double longitudinal series of knobs, before it is covered with oblique scutella; the nemidia, that is, the lower part of the naked tibia, are squamulose; the toes scutellate, and warty beneath: the nails are moderate, arcuated, acute; the hind nail is rather the smallest: the middle is the largest, and dilates internally into a sharp edge, perfectly entire, and by no means pectinated, any opinions or statements to the contrary notwithstanding.

The body is compressed, but fleshy: the neck cylindrical and slender: the face and lora entirely feathered. When it is stated that some specimens have these parts bare, it is because the other *Guarauna*, which is an *Ibis*, has been confounded with it. The tail is moderate, scarcely six inches long, plane, broad, rounded, and composed of twelve broad feathers.

The wings are twelve and a half inches long, ample, and rounded-obtuse: the first quill is moderately long, and equal with the eighth, and by more than two inches shorter than the second, which is equal to the sixth: it is peculiarly shaped, narrower at base than at tip, where it is very blunt: the third is the longest of all, being however but little longer than the fourth.

The feathers of the neck are short, and rather narrow: those of the body and wing-coverts are rounded on their margins, and soft and dense, the inferior are somewhat loose on their borders. There is no naked place on the sides of the breast, as in the Herons. The general color of the Courlan is a deep chocolate brown, or fuscous sooty hue, reigning all over the bird: the feathers are however paler on their margins, and there is on each from the base along the middle, including the shaft, with the exception of the tip, a large, broad lanceolate, pure white spot. (In the *Ibis Guarauna*, the white occupies the margin instead of the middle of the feathers.) This white spot is larger in proportion to the size of the feather, so that it is more conspicuous on the wing-

coverts, both upper and under, especially as on the back, not reaching to the tip, it is mostly concealed by the overlapping of the feathers: on the larger coverts, however, it consists of a mere streak, as well as on a few of the lower tail-coverts and femorals: generally speaking, however, these parts, as well as the rump, upper and lower tail-coverts, outer large wing-coverts, vent, all the quills, and tail-feathers are unspotted, and of a bright chocolate brown, with even a greenish gloss, darker, and with purplish reflections on the quills and tail: on the contrary, on the head and neck all round, the brown color is paler and duller, and as the feathers are on these parts much smaller, the more extended white longitudinal spots are more closely set, producing a thickly striated appearance. On the crown and cheeks the white is moreover neither so pure nor well defined, which, together with the much less intense ground color, gives these parts a rufous gray look: the throat is entirely whitish.

The sexes present no difference, and the young soon put on the adult plumage.

NUMENIUS BOREALIS.

ESQUIMAUX CURLEW.

[Plate XXVI. Fig. 3.]

Numenius borealis, LATH. *Ind.* II., p. 712, Sp. 9 (not of Ord, which is *N. hudsonicus*).
 NOB. *Obs. Wils. Orn. notes.* Id. *Cat. and Syn. Birds U. S.* Sp. 244. Id. *Monogr. Num. in Osserv. Cuv. Règn. An.* Id. *Sp. comp. Rom. Phil. sp. Phil.* 187.—*Scelopax borealis*, FORST. *Phil. Trans.* LXII., p. 431 (not of Gmel., &c., which is *Numenius hudsonicus*).—*Numenius brevirostris*, LICHT. *Cat. II., Vog.* p. 75, Sp. 774. TEMM. *pl. col.* 381.—*Numenius cinereous*, *Sea-side lesser Curlew*, BARTR. *Trav.* p. 292.—*Courlis demi-bec*, TEMM. *loc. cit.*—*Chorlito champêtre?* AZARA, IV., p. 275, Sp. 307.—*Esquimaux Curlew*, LATH. *Gen. Syn.* v., p. 125. LATH. *Gen. Hist.* IX., p. 180, Sp. 10. FORSTER, *loc. cit.* not of Pennant, which is *N. hudsonicus*.

In Wilson's standard work are described but two species of Curlew, and no more than this are given by Temminck in his very complete and excellent European Ornithology. We have brought forward three North American and three European species, which, contrary to the generally received opinion, are all distinct from each other, and different in both continents, not one being found in Europe that is also an inhabitant of America. These facts, independent of any reference to the almost interminable confusion pervading the works of preceding authors, will sufficiently justify us in repeating here and stating with more details what we have published in our Monography; in which, if no new species be introduced (and the list is already too long), we

hope to have placed the old ones in a new and more advantageous light.

Perhaps no genus of birds has been less accurately studied, and notwithstanding that it is exceedingly natural, it has but very recently been restricted within its appropriate limits. The appellation it bears was first given by Brisson, yet he was far from assigning its true boundaries. In addition to the Curlews, he comprised in *Numenius* a few other birds (the *Tantali* of Linné), now forming the natural family of *Tantalidæ*, and divided into the genera *Tantalus* and *Ibis*. The true *Numenii* had been much more philosophically classed by Linné in his extensive genus *Scolopax*, which, though not well formed, was still, with very few exceptions, entirely composed of birds belonging to the natural family *Scolopacidæ*. Under all circumstances, the union of *Numenius* with *Scolopax* was far more natural than that with *Tantalidæ*; and although we make use of the name given by Brisson, the credit of establishing it in its present acceptation is due to Latham, or perhaps to Illiger, who freed it from extraneous species, and we, with Temminck, Vieillot, and others, adopt it as we find it. The species now regarded as *Numenii* form a very natural group, being closely allied in manners, colors, and somewhat even in size. Hence they have been continually mistaken for each other, erroneously united, or wantonly multiplied, as will be made amply apparent by the synonyms and scientific history of each species.

All the species of Curlews have the bill very long, slender, feeble, much arched, slightly compressed, almost cylindrical, hard and obtuse at tip, and entire: the upper mandible is longest, furrowed for three-fourths of its length, rounded towards the tip; the lower a little shorter. The nostrils are basal, lateral, longitudinal, linear, being placed in the furrow. The tongue is very short, small, and acute. The face is attenuated, and wholly feathered. The feet are rather elongated, slender, bare above the heel; the tarsi cylindrical, half longer than the middle toe, with their integument reticulated: the three fore toes are short, fimbriated, scutellated beneath, *all connected at base by a short membrane* extending to the first articulation; the hind toe is inserted high upon the tarsus, slender, short, but longer than a phalanx of the fore toes, bearing on the ground only at tip; the claws are arcuate, rather short, bluntish; the cutting edge of the middle one being entire.

The wings are long, acute, falciform, with from twenty-eight to thirty stiff quills: the first primary is longest; the scapulars are elongated. The tail, rather short, is somewhat rounded, and of twelve feathers.

They moult once annually: the females perfectly resemble the males in color, and the young only differ, but can be known at once, by their bill being much shorter and less bent.

Possessing numerous general features common to the Waders of their family, and a few of those which distinguish the *Ibis* and *Tantali*, the Curlews have nevertheless some peculiar traits of their own more easy to perceive than to define. Their physiognomy may be thus described. They have a rather small head, with a remarkably long, slender, and arched beak, longish neck, and body deeper than broad, and apparently gibbous. The wings are long, the tail moderate, the feet rather slender, though not so much so as in the allied genera, and bare for a considerable space above the heel (commonly, but improperly, called the knee). The toes remarkably short and stout. The plumage of the Curlews is composed of a rather thick covering of somewhat loose, though silky feathers, abundantly furnished with down. The colors, consisting of a mixture of grayish brown, white, and blackish, are very dull, and hardly vary in the different species. The sexes are not distinguishable by difference of color or stature; the female is perhaps a trifle smaller than the male. The young scarcely differ in plumage from the adults, but are well marked by their much shorter and straighter bill. They moult but once during the year, and late in the season. We have detected a clue to the species in the medial line of the crown, the color of the rump and of the under wing-coverts and long axillary feathers.

The Curlews are mute, timid, shy and wary. They frequent and seek their food in salt marshes, and along muddy coasts and inlets, where at low water they may be observed in company with other Waders on the mud flats, or at high water roaming along the marshes. They but seldom alight on wet sands, and only when muddy shores are not to be found; always preferring such on account of their flexible bill. They seldom desert the salt water, and are very rarely met with inland, at a distance from the sea or large rivers: during summer, however, they often frequent dry fields in search of berries. They run swiftly, being much upon the ground: their flight is high, very rapid, and long sustained. The voice of the Curlews is loud and whistling: when about to commence their great periodical journeys they congregate in large flocks, rise to a great height, and extend themselves into a vast line: whilst thus travelling onward, they keep up an almost incessant whistling, carefully waiting for each other. These companies only separate during the breeding season. In captivity, though they may linger for weeks or months, they seem to perish at last from the continued operation of melancholy and want of proper food.

Their food is chiefly animal, and in a great degree marine. They prey indifferently upon worms, insects, mollusca, crustacea, and occasionally small fish, and are very dexterous in probing the mud with their long, soft and slender bill, and pulling out of their holes small shell-fish and crabs. In summer, however, they are very fond of ber

ries, especially those of *Rubus trivialis* or Dewberries, and *Empetrum nigrum*, on which they soon fatten.

The spring is their season for breeding, and the northern regions the place they prefer for this purpose. They are monogamous, lay four or five pyriform eggs, which are deposited with little art on a few bits of reeds or grass placed in the midst of tufts, or in small bushes, for shelter; sometimes they are merely dropped in sand-holes, or on wild open shores. Both sexes sit on the eggs; but the young receive little attention from their parents, and almost as soon as hatched provide for themselves, without requiring their assistance.

This genus, though by no means numerous in species, is not confined to any particular regions of either continent; but is distributed everywhere along the shores from the frozen regions of the North to those of the South Pole, and they appear also in the torrid zone in winter. Their migrations may be traced from North to South according to the seasons. They pass the winter in our temperate regions, generally returning in May from the South, and in September from the North.

In the economy of nature, these birds seem to be of some importance in preventing the superabundant multiplication of numerous marine animals, thus assisting to maintain the equilibrium and preserve the harmony of the Animal Kingdom; as the Flycatching birds serve to check the too great increase of land insects. It is perhaps on this account that they are so generally diffused. In relation to man they appear to be of no less importance, since without being delicious, their flesh is very palatable, and even, when they have fed and fattened on berries, tender and excellent meat: when their nourishment has been derived from the sea it is much inferior. They are pursued both in Europe and America in various ways, and brought in numbers to the city markets. In some districts their eggs are much sought after, but those of other aquatic birds are mixed with them, and offered for sale under the same name.

Wherever the Curlews may be classed by ornithologists, their rank in the system of Nature is at the head of the family *Limicolæ*, which they connect with the *Falcati*. Their *linear* place, therefore, is between the genera *Ibis* of the latter, and *Tringa* of their own family: species of the latter genus are so closely related to them as almost to fluctuate between the two genera. There is a striking affinity on the one hand between some species of *Ibis* and *Numenius*, and on the other between the smaller *Numenii* and *Tringæ* with slightly curved bills, such as *Tringa subarquata*, and also those with semipalmated feet, but especially when they combine both these characters, as our new *Tringa himantopus*. In their own very natural family, the Curlews are more immediately related to *Tringa* and *Limosa*, both in aspect and manners. The

genus *Scolopax* we do not consider as approaching them within several degrees.

Cuvier had attempted to divide this genus into two independent subgenera, but unsuccessfully, and they must be relinquished even as sections, inasmuch as the characters on which they are based have no existence in nature, as he has since virtually acknowledged by omitting all mention of the group *Phæopus* in his new edition of the *Règne Animal*. This is in fact one of those very natural small genera which do not admit even of well based sections. If the species were numerous, we might perhaps divide them into those with white rumps, and those which have no white on that part, or into those showing the crown of the head marked with a central line, and those without this line. There being however but few species, we consider it to be more philosophical to view them as an undivided genus, beginning with the larger and ending with the smaller species: but at all events the marks we have indicated (of the head and croupe), together with those of the under wing-coverts and long axillary feathers, furnish us with what we have called the clue of the genus. For example, the *Numenius arquata* of Europe is distinguished by its head, not parted by the central line, its large size, long arched bill, white rump, white under wing-coverts and axillary feathers: its American analogue, whose still longer bill has gained for it the name of *longirostris*, has the croupe of the same dark color as the body, with the under wing-coverts, &c., rust-colored. The *phæopus* of Europe, and *hudsonicus* of North America, similar in color and stature, and each ornamented with the medial coronal line, are in like manner distinguishable, the former by the white, the other by the dark-colored croupe; and by the under coverts, in the European white banded with black, whilst in the American they are banded with black and rusty.

The two smallest, the present American species, and the *N. tenuirostris* of Europe, though less completely analogous, are nevertheless both destitute of the coronal line: the present has the rump dark, and the under wing-coverts banded with black and rusty; while the *slender-billed* has them pure white, as well as the rump, and ground of the tail-feathers. The diminutive size of the Esquimaux Curlew will certainly prevent its being confounded with the gigantic *N. longirostris*, especially as its bill is remarkably short, and but little arcuated.

The reader will here have already remarked, we are confident, the curious fact, that all the European species of *Numenius* have white rumps and white under wing-coverts; whilst the American all have the former uniform in color with the remainder of the plumage, and the latter rust-colored.

The true Esquimaux Curlew (we say the *true*, for it is neither the Esquimaux Curlew of Wilson nor of the Arctic Zoology) is one of the

four species that are destitute of the medial coronal line. It is easily known from the large species by its diminutive size, from the small ones by wanting the white rump, from all by its very short bill.

It is but half the size of the species that has usurped its name of *Short-billed*, being hardly fourteen inches in length, and twenty-four in breadth. The bill is no more than two and a half inches long, but little arched, remarkably slender, blackish, the lower mandible rufous at base: the head is pale, with longitudinal lines of brown: the forehead is deep brown, with pale spots; although there is no medial line, it is somewhat indicated by yellowish marks on that part: the eyebrows and chin are whitish: the neck, breast, belly and vent are rufous-white, the two first dashed with brown streaks and arrowheads, and a few slender streaks on the vent: the feathered parts of the thighs are rufous-white, spotted with brown; the sides under the wings, rufous, transversely fasciated with brown: the back is of a deep brown, the feathers margined with yellowish-gray in a serrated manner, and the croupe is uniform with the rest. The wings are long, reaching much beyond the tail; they are brown; the shafts of the prime quills are white; the secondaries and lesser coverts margined with gray: the lower coverts, as well as the long axillary feathers, are ferruginous banded with brown: the rump is brown, the feathers edged and spotted with whitish. The tail is short, brown-ash crossed with darker bands, and slightly edged with whitish. The legs are bluish black; the tarsus is one and three-quarter inches long. The female is perfectly similar to the male, except a very little inferiority in size.

This exclusively American bird is widely spread throughout both sections of the new continent, being traced from the fens of Hudson's Bay in the extreme north, to the warm climates of Brazil, Monte Video, and Paraguay, a circumstance which, however recently observed, or extraordinary, is often repeated with the Waders that are peculiar to America. D'Azara informs us that in Paraguay this species makes its passage in the month of September, and keeps in the open champaigns, either wet or dry, and never on the borders of rivers or marshes: hence he calls it Field Curlew, *Chorlito champêtre*.

At Hudson's Bay this Curlew makes its appearance early in May, coming from the south, and going further north, returning again to Albany Fort in August: it remains there till September, when it departs for the south. It is common in Maine and Nova Scotia during the months of October and November, and still more so at Newfoundland. We have received it from Maine, and from Prairie du Chien in Michigan, and have occasionally met with it also in the markets of New York and Philadelphia: in the Middle States, however, it is by no means common, having escaped the industrious Wilson. This fact proves that our Curlew is fond of extremely remote regions, without

remaining for any length of time in the intervening countries between its winter and summer residences. They collect in small flocks of from ten to twenty; and when starting on the wing utter a cry resembling *bibi*; this whistling note may be heard at a distance. The Esquimaux Curlew lays four eggs, and keeps in flocks composed of young and old together: they feed much on the berries of *Empetrum nigrum*, which imparts to their flesh a delicate flavor.

It has been the lot of all the species of Curlews to be wantonly confounded with each other: only two were reckoned as European, and in them were merged as identical the three American. The *longirostris* was first definitively disunited from the *arquata* by Wilson. Vieillot unaccountably confounded as one two very different species, giving it more than one name, however. The *hudsonicus*, though correctly described by Latham, was referred by all writers, including Temminck, to the European Whimbrel, *N. phaeopus*. The present one he forbore, through extreme caution, to unite also with it, observing that it might be a real species, or at least a constant variety. But when the bird actually fell into his hands, he called his specimens, which were from South America, *Numenius brevirostris*, not recognising in them the *N. borealis* of Latham.

Although we call this bird Esquimaux Curlew, it would perhaps be better to condemn this name altogether, and give this one the really appropriate name of Short-billed Curlew, although this as well as the former appellation has been misapplied. As for the legitimate scientific name, this also might be disputed. *Borealis* was first given by Gmelin to the Hudsonian Curlew, but as he called them *Scelopax*, we have preferred retaining the appellation of Latham, who is admirably correct with respect to the Curlews, being only wrong perhaps in the choice of the name, and certainly in the citation of Gmelin. As for Temminck, in declaring that the new species of Lichtenstein differs essentially from Latham's *N. borealis* (a fact which was doubted by the accurate German himself), he must have had in view our *N. hudsonicus*, Lath., the *Scelopax borealis* of Gmelin.

We can form no opinion on the *N. rufiventris* of Vigors, a supposed new Curlew from the North West Coast: the diagnosis is certainly inconclusive, not embracing the essential characters; and establishes no difference between it and *N. hudsonicus*, of which it also has the size.

The *N. madagascariensis* of Brisson forms a seventh species of *Numenius* peculiar to Southern Africa and Oceanica, allied to the *arquata* and *longirostris*: it is figured on the Pl. Enl. 198 of Buffon. We do not know either *N. virgatus*, or *N. lineatus* of Cuvier, but one of them at all events will have to be referred to the *madagascariensis*.

GALLINULA GALEATA.

FLORIDA GALLINULE.

[Plate XXVII. Fig. 1.]

Crex galeata, LICHTENSTEIN, *Verzeich. Mus. Berlin.* p. 81, Sp. 826.—*Gallinula chloropus*, NOB. *Cat. and Syn. Birds U. S.* Sp. 275.—*Fulica major pulla, fronte cera coccinea oblongo-quadrata glabra obducta, membrana digitorum angustissima*, BROWNE, *Nat. Hist. of Jam.* p. 479 (*Red-faced Coot*).—*The Coot*, SLOANE, *Jamaica*, II., p. 320, Sp. 15.

IN all cases wherein we find two animals, however similar or apparently identical in other respects, but restricted within very far distant localities, between which no line of communication can be traced, and beyond which, as in the present case, they are not known to perform great periodical migrations, we may boldly assert that the individuals of the different countries belong to distinct species, having sprung from a different centre of creation, and not being descendants of the same original type. The few known exceptions to this excellent general rule are daily falling in with it, as they come under the closer observation of the more and more practised eye of the naturalist; and since the separation into different species of the Gallinules that inhabit the different parts of the globe, there is reason to think that no exception whatever will be admitted to exist, and that all that remain are owing to the want of sufficiently minute comparison and examination. No birds, in fact, reappear in widely separated longitudes under forms and colors so similar as the Gallinules, of which we are treating, and if all the species were found in the same country, they would hardly be looked upon even as individual varieties. Yet upon the principle we have set forth, and which we do not fear to maintain, they have a right, and ought properly to be considered, as real species. How different is the stand we now take, fortified by observations in the great field of nature, from that arbitrarily adopted by Buffon; who on the contrary saw everywhere the same species reproduced, but changed by climate, or I know not what, and whenever he could referred every new bird he met with to the paltry creations of Europe.

But to come to facts, and without longer indulging in theory, we shall merely state that the Florida Gallinule differs specifically from the common Gallinule of Europe no less than the Java Gallinule (*Gallinula ardosiaca*, Vicill.), although the differences are almost imperceptible, so as to justify those who have not hitherto distinguished between them, among whom we are to be included ourselves. The true *Gallinula chloropus* is spread over all Europe and the temperate parts of Asia, and is

also met with throughout the continent of Africa from east to west, and from north to south. We have examined specimens from Egypt, others from Senegambia, and from the Cape of Good Hope. The size varies much, even in specimens from the same country, but the *G. chloropus* and *ardosiaca* have always the toes shorter than our American analogue. In fact, even in the largest specimen examined by Lichtenstein, which was from Caffraria, and measured fourteen and a half inches, the middle toe without the nail was only twenty-six lines long: whilst in the Florida specimens of the ordinary size of fourteen inches, the same toe measures at least thirty-four lines. The tarsus likewise, and the other toes, are proportionally longer, and this forms the best discriminating mark. Another might also be drawn from the frontal clypeus, but as this extends with age in the different species, it may be deceptive: in full grown birds, however, it is proper to observe, that both the American and Javan species differ from the common kind in having it much wider, and differently shaped: in the American it extends still further back, and is cut somewhat square behind, whilst the Javan has it exactly rounded: in the European it is much less extended, narrow, and comparatively acute. In point of form, markings, proportions of the primaries, and every other particular we could think of, we have been unable to find any distinction, however trifling, between the three species.

The genus Gallinule, restrained within its just limits,* is a small group composed of but five or six species spread over all the warm and temperate climates of the globe, and exceedingly similar in form and colors: only one, that figured by Wilson, assumes the brilliant vesture of its near relations the *Porphyrio*nes, for which reason some authors have considered it as one of them. Together with the Rails, the Coots, and some others it forms the natural family *Macrodytyli* (*Rallidæ*), and is more aquatic in its habits than many web-footed birds. Unlike the Coots, however, the Gallinules dislike salt or brackish water, and confine themselves to fresh, and to rivers and streams especially, and they are solitary, or at most the hen is seen with her family, like the Gallinaceous birds of that sex. Being chiefly nocturnal, the Gallinules hide carefully by day among reeds and other aquatic plants; and even in a state of captivity they are so remarkable for this habit, that some which I kept in a yard would take advantage of every hiding-place to escape the eye of man. It was only at the approach of night that they would willingly display on the water their graceful evolutions, swimming in circles, and often striking the water with their tails. From time to time they would rest awhile, placing their necks on the reeds or large leaves of aquatic plants.

* The greater part of authors, and among them Latham and Temminck, improperly unite the Short-billed Rails with them.

Not gifted by nature with the long wings of other Waders, the Water Hens, being anything but wanderers, obey both their conformation and natural disposition by not undertaking long periodical migrations, but are permanently resident in their native countries, merely removing from one station to another within certain provinces, and without roaming over the adjacent districts. They run with rapidity; fly badly; always in motion, and frequently carry their tail high, as represented in the plate, showing the white plumage of the vent, especially when running on the ground. They dive when frightened, but never after food. They feed on small fishes, insects, and some vegetables, picking them up as they swim. They seldom leave the pond or river where they get their food and exercise, and are peculiarly attached to such as are bordered with sedge and bushes; and standing waters, green with vegetation, furnish them with abundant provision of animalcula and pond-weeds. They lay twice or thrice in a season, building their nest upon low trees, stumps and bogs, with sticks and fibrous substances, rushes and weeds, or other coarse materials in great abundance, invariably placing it by the water side. The eggs are very long, of a greenish white, spotted with rufous, and very pointed at the small end. There are nine or ten in the first brood, the subsequent ones less and less numerous, and the mother never leaves the nest without carefully covering them with weeds. The chicks are no sooner hatched than they swim, with instinctive dexterity, pursuing their parent, and imitating all her motions. Thus are two or three broods reared in a season, which while under her care she regularly after their evening's sport leads back to the nest, where she uses every exertion to make them warm, dry, and comfortable: but when grown up and taught to provide for themselves, she turns them off.

The Florida Gallinule, or Water Hen, is fourteen inches long: the bill one and a quarter to the corner of the mouth, and one and an eighth to the posterior portion of the clypeus; it is red, as well as the clypeus, with the point greenish. This clypeus, or bare red membrane spreading over the forehead, is more than half an inch wide between the eyes, occupying a great portion of the head, and being posteriorly cut somewhat square or slightly cordate, the reverse of what is observed in the European, which is rather pointed at this place. The whole plumage from the very base is of a dark plumbeous hue, or sooty black, the head and neck being a shade darker, and the lower portion lighter and more tinged with bluish, so that they might be styled cinereous. The mantle, that is, the whole back with the wing-coverts, are highly tinged with olivaceous: the quills are blackish, and the tail deep black, much more than in the other allied species. The under tail-coverts are also deep black, with the lateral pure white: the white also lines the wings externally from all round the shoulder, almost, but not quite to the tip

of the outer quill, which is white on half the outer part of its narrow web: a few white longitudinal spots may likewise be seen on the under wing-coverts, and very large and conspicuous ones along the flanks, and a few whitish streaks mixed with the plumbeous on the belly. The wings are nearly seven inches long, and the tail more than three. The feet are greenish, with a red ring like a garter surrounding the tibia: the bare space on this is nearly three-quarters, and the tarsus two inches and three-eighths: the middle toe without the nail is more than two and a half, and the nail itself three-quarters: the lateral toes measure more than two, and the hind, one and an eighth. The sexes are precisely alike.

The little that is known of the habits of this Gallinule does not allow us to doubt that it has all those of its close analogues. It is common in Florida and Jamaica on the streams and pools, and extends over a great portion of the southern continent of America: in the middle and northern United States it appears to be quite accidental, for although a few well authenticated instances are known of its having been seen and shot, even as far as Albany in the state of New York, it has escaped the researches of Wilson, as well as my own. It is by no means, therefore, a common bird, and is not known as inhabiting arctic America, ranging much less to the north, even as a straggler, than its European analogue. Its voice is sonorous, resembling *Ka, ka, ka!*

The genus *Gallinula* has the bill shorter than the head, rather stout, much higher than broad, tapering, compressed, straight, convex at the point: both mandibles are furrowed, the upper covers the margins of the lower, is inclined at the point, and spreads at base into a naked membrane occupying the forehead. This conformation, found also in the *Fulicæ*, to which Linné united them, more judiciously than they have since been united with the Rails, in which the front is feathered, is in my opinion of considerable importance: the lower mandible is navicular: the tongue is moderate, compressed, entire. The legs have been described among the characters of the family, the anterior toes being in all extremely long, flattened beneath, and bordered by a narrow membrane, which circumstance alone distinguishes the Gallinules from the Coots, that have a broad membrane cut into festoons. The hind toe bears on the ground with several joints: the nails are compressed, sub-arched, and rather acute. The wings are convex, rounded, the first primary is shorter than the fifth, the second and third being longest. The tail is so short as hardly to appear from under the coverts. The females scarcely differ from the males, but the young are different from the adults. They moult annually.

The family *Macrodytli*, or *Rallidæ*, when restricted to the five genera of which we compose it (one being *Fulica*, which nothing but blind caprice could separate from them), is surprisingly natural. The

bill is short, or of moderate length in the long-billed Rails, hard, thick at the base, straight, compressed, entire, curved at the point, and sharp on the edges. The head is small, the neck well proportioned; the body slender and much compressed. The feet are moderate, rather robust, and without exception four-toed: the naked space on the tibia is rather limited; the tarsus not longer, generally shorter than the middle toe, and *scutellated*: the toes are three before and one behind, remarkably long (the most obvious trait of the family), slender, quite divided, and edged with a decurrent membrane: the hind toe is rather long, articulated almost on a level with the others, resting on the ground a good part of its length: the nails are slender, compressed, and acute. The wings rather short, wide, somewhat rounded, concave and tuberculated; the first primary is not much shorter than the second, the third or fourth being the longest. The tail is short, and of twelve feathers.

The female is smaller, but otherwise differs little from the other sex: the young often differ from the adults: even those that moult twice in a year do not change their colors in moulting.

All these birds have very similar habits: they are all solitary; all fond of concealment and the immediate neighborhood of water: they move nimbly about on marsh plants, walking on the softest mud, and even floating weeds, their characteristic long toes serving admirably the purpose of a broad base. Their food is small animals, seeds and vegetables. They are monogamous, and breed several times in the year: they build their nests on, or close to the water, some being even afloat, and therefore liable to be carried away in floods. The number of eggs varies from five to sixteen, and they are rounded: both sexes alternately sit upon them. The young run about under the parental care, and provide for themselves as soon as hatched; they are remarkably brisk and lively, being born with a thick down of a beautiful velvet black color, whatever else it may finally become. Those that migrate travel by night: owing to their short rounded wings, composed of flaccid feathers, their flight is slow and limited, and by no means rapid, so that they only have recourse to it in the last extremity, when it is performed with the legs hanging down in a way peculiar to themselves, and not stretched out as in the other Waders, or drawn up to the belly as in the generality of birds. It is in running that they excel, and with their long compressed body they make their way so adroitly and swiftly amongst the grass or weeds, that their pursuers are left far behind. They also swim well, and even dive occasionally when there is necessity for it. Their flight is however rapid when elevated, and fairly started. Their voice is strong but hoarse. Their flesh is well-flavored.

RALLUS NOVEBORACENSIS.

YELLOW-BREASTED RAIL.

[Plate XXVII. Fig. 2.]

Gallinula noveboracensis, LATH. Ind. II., p. 771, Sp. 16.—*Fulica noveboracensis*, GMEL. Syst. I., p. 701, Sp. 15.—*Rallus ruficollis*, VIEILL. Gal. Ois. II., p. 168, pl. 266. (A bad figure.)—*Rallus noveboracensis*, NOB. Cat. Birds U. S. Id. Syn. Sp. 273. Id. Sp. comp. Sp. Phil. 212.—*Perdix hudsonica*? LATH. Ind. II., p. 655, Sp. 41.—*Le Râle varié à gorge rousse*, VIEILL. Nouv. Dict. XVIII., p. 556.—*Yellow-breasted Gallinule*, LATH. Syn. III., p. 262, Sp. 15. Id. Gen. Hist. IX., p. 419, Sp. 30. PENN. Arct. Zool. II., Sp. 410.—*Hudsonian Quail*? LATH. Ind. Orn. Suppl. p. 224. Id. Gen. Hist. VIII. p. 330, Sp. 72.

THE genus Rail, and that of the Gallinules, are so closely related, that many authors have either confounded them together, or by their various definitions and acceptations made them to interfere with each other. Thus, for Latham, Temminck, and others, the Short-billed Rails, among which ranks the present species, are Gallinules, although they want that obvious character upon which Linné founded his natural, though too much extended group *Fulica*, and which we also, with Vieillot and others, adopt as its best representative character, namely, the naked frontal clypeus. The genus Rail is therefore very comprehensive and numerous in species, which are spread over all the globe, and may with propriety be divided into two subgenera or groups, the first of which will contain the Long-billed species, under the more restricted name of *Rallus*, containing the true *Ralli* of all authors, whilst the name *Crex*, or rather *Porzana*, or *Ortygometra*, may be consecrated to the Short-billed Rails, improperly ranked by authors with the Gallinules. I say rather *Porzana* or *Ortygometra*, because the name *Crex* might be reserved for a secondary group, instituted for the *Corn-crake* alone (*Rallus crex*, L.) an European bird, whose *dry-land* habits, so different from those of its congeners, have, with apparent propriety, induced Bechstein and others to elevate it to the rank of a full genus. Its land habits are so peculiar, resembling more those of Gallinaceous birds than of Waders, that notwithstanding a perfect similarity of conformation, we do not hesitate to grant it the distinction of a section for itself, especially as we are at last, after a minute examination, able to assign it a character drawn from the respective proportions of the toes and tarsus. This is, however, the result of extraordinary pains. In the Land Crake of Europe (and probably in a few analogous foreign species) the middle toe without the nail is shorter than the tarsus, whilst in the Water Crakes it is longer. The hind toe is also shorter and

rather more elevated from the ground. All the other Rails and Crakes are, though much less aquatic than the Gallinules and Coots, always found in marshes, swamps, lakes, and their reedy margins, or in their vicinity, and they even swim occasionally, though not habitually. The *Ortygometræ*, or Crakes, are again subdivided by the modern English school into two groups, which they elevate to the dignity of genera, under the names of Crake and Craker, but to which they assign no character. At least, Dr. Leach, the author of the genus *Zapornia*, did not, as far as I know, characterize the group, nor is my good friend at present able to point out the difference. However this may be, the only species referred to it is the European *Rallus pusillus*, whilst its close relative the *porzana*, and even the *R. baillonii* are left in *Ortygometra* with the *Rallus crex*, which with great inconsistency the same writers omit to distinguish separately, as has been done by some Germans and Italians. It will not be useless here to bear in mind that even the two chief divisions of this natural genus pass so insensibly into each other as to make it impossible to separate the connecting species, so that a great many Brazilian Rails are arbitrarily placed in either subgenus, notwithstanding that the extremes—which among the four North American species may be exemplified by this, the Yellow-breasted namely, and the Virginia Rail—are so widely different: and this furnishes additional proof of the inexpediency of Latham's arrangement, however it may have since been admired and imitated. Our genus Rail, which we maintain to be natural, though closely related to *Gallinula*, and especially *Porphyrio*, is easily known at once from them all by the feathered front, common to all the species.

The bill, varying in length, which affords the means of distinguishing the two subgenera, is in all the Rails more or less thick at base, generally straight, and always compressed: the upper mandible is furrowed each side, somewhat vaulted and curved at tip, its base extending upwards between the feathers of the front: the nostrils, placed in the furrow, are medial, oblong or longitudinal, open and pervious beneath, and covered at base by a membrane (by which conformation they differ essentially from the *Porphyrios*): the tongue is moderate, narrow, compressed, entire, acute, fibrous at tip: the forehead is feathered: the body very compressed and thin flanked. The naked space on the tibia is small, the tarsi subequal to the middle toe, somewhat compressed, so as to make up for the want of membrane in the analogy to the Web-footed, that other less aquatic Wading birds exhibit. We are particular in remarking this, for the toes are entirely divided, and the decurrent membrane extremely narrow. The hind toe equals in length one phalanx of the middle, and is inserted a little higher than the others: the nails are short, compressed, curved, and acute. The first primary is shorter than the fifth; the second, third, and fourth being the longest. The

tail is very short, the feathers flaccid, not appearing from beneath the coverts.

The female is generally, though not always, similar to the male, an exception being met with in one of the small European species. The young differ much from the adult. They moult twice a year.

The bill of the subgenus *Rallus* (true Rails) may be thus described: longer than the head, slender, straight, subequal throughout, compressed at base, cylindrical and obtuse at the point; upper mandible furrowed beyond the base: nostrils more basal, linear.

In the Crakes, of which the present is an example, the bill is shorter than the head, robust, much higher than broad at base, tapering, compressed and acute at the point: upper mandible furrowed at base only, a little curved at tip: the lower is navicular: the nostrils exactly medial, oblong. Apparently the group is easy to define, but as if nature took delight in baffling our attempts at exactness, the species are found to pass from one form to another by nice and insensible degrees.

This Rail, like all others, inhabits swamps, marshes, and the reedy margins of ditches and lakes. By a singular coincidence, it was in the market of New York that, in the beginning of February, 1826, I first met with this pretty species, which appears to have escaped the industrious research of Wilson, although found equally in Pennsylvania in winter, where it is, however, very rare. We can hardly believe it is to be found in the south or south-west, notwithstanding we have been credibly informed of the circumstance. But we have no hesitation in declaring it an arctic bird, for we do not doubt that it is the Hudsonian Quail of Latham, thus miscalled by superficial observers on account of its general resemblance in plumage and size to the true Quail of Europe; besides which we have received it ourselves from the extreme northern limits of the American continent, and have information of its inhabiting near the most north-western lakes, such as the Athabasca.

The Crakes, as well as the true Rails, lead a solitary life: they are timid and shy, screening themselves from observation amidst the tall reeds, so as hardly ever to be seen except when surprised, which does not very often happen, and forced for a moment to have recourse to their short wings. But they prefer to evade dangers by their rapid movements among the aquatic herbage, which the compressed form of their body enables them to execute with the greatest facility, however entangled the stalks, or narrow the interstices. They also swim and dive tolerably well, when compelled to take the water, hiding all but the tip of the bill, but are by no means so essentially aquatic as the Gallinules, or their close relatives the *Porphyrio*nes. They also breed in marshes, among weeds and thickets, placing the nest near the water's edge, or, fastening it to the reeds, they build a floating habitation. In most of the species (how it is in the present we do not know), the eggs are about

eight, generally seven or nine in number, their color being always of a green more or less tinged with olive, and very oval in shape. Different in this from the Gallinules, they prefer stagnant to clear waters, and always keep where the grass is high, and particularly avoid sand and exposed shores. Notwithstanding their apparently limited powers of flight, and a conformation similar to that of the sedentary and unenterprising Gallinules, they periodically undertake great journeys. They walk with agility and ease, raising their head, elevating their feet, and jerking up their tail: they alight sometimes on low branches, never on trees, except to escape a very close chase. Of a nocturnal disposition, they hide closely by day, seeking their food in the morning and evening, or by moonlight when they emerge from their retreats. Their food is both animal and vegetable; they search eagerly after worms and snails, and are no less fond of certain leaves, and the seeds of marsh plants.

The following description is taken from a fine male, procured, as we have mentioned, in the neighborhood of New York in the winter.

Length hardly six inches, extent about ten: bill six-eighths of an inch long, exceedingly compressed, of a greenish-dusky, at base beneath on the margins of both mandibles, and the ridge near the front, dull yellowish-orange; irides dark drab: feet dirty flesh-color; tarsus one inch; middle toe an inch and one-eighth long. Base of the whole plumage slate. Head above chocolate-brown, the feathers being slightly skirted with cinnamon-ferruginous, and on the hind part minutely dotted at tip with white; over each eye a broad stripe of cinnamon-ferruginous, a chocolate spot between the bill and eye inconspicuously continued beyond it, the chocolate-brown color descends from the nucha to the back on the upper part of the neck in a broad stripe, the feathers of which are widely skirted with cinnamon-ferruginous, and crossed by two narrow white bands, one of which is terminal; those nearer to the neck, and the feathers of the rump having only the terminal band; sides of the neck and whole under surface yellowish-ferruginous, each feather being tipped with darker ferruginous, which gives a waved appearance to those parts, the waves being more intense on the lateral parts: throat and belly whitish, but passing insensibly into the general color; flanks and thighs darker, with the two white transverse lines, as on the back. Wings when closed reaching to the tip of the tail; upper wing-coverts dark slate broadly margined with olive-ferruginous, and each with two white narrow spots representing the usual lines; margin and spots becoming by degrees inconspicuous towards the outer coverts; inferior wing-coverts and axillary feathers white; quill-feathers plain grayish, considerably lighter beneath, and with the shafts above darker; last of the primaries and first of the secondaries with two or three white dots very irregularly disposed, five or six nearest to the body white on a great part at tip, the last becoming, however, more generally grayish, and

only mottled with white; tertials, or rather scapulars, blackish, very widely bordered each side with different shades of yellowish-ferruginous, of which the palest is outside, and crossed by the two narrow white lines, having besides a rudiment of a third, equidistant; these scapulars form a whole with the wing-coverts and the feathers of the back, being of the same color, only somewhat more brilliant. Tail very short, feathers blackish, each side ferruginous, with the two white lines, but interrupted, and neither at the tip; the tail is altogether concealed in its upper and lower coverts; the upper are of the same color, but have only a terminal white band, whilst the inferior are black at base, and with a broad and vividly ferruginous tip.

This is the most brilliant specimen I have seen, and I must declare that it had all the appearance of being adult. Others did not, however, differ in anything except in having the colors duller and less decided: nor did I notice any difference between the sexes, except a little in size, the female being smaller. According to Vieillot, however, the plumage I have so minutely described could have been only that of the young bird: he states the adult male to be different in color both from the adult female and the young, but as the differences appear to consist more in the language of his imperfect descriptions than in anything else, we shall bestow no further notice upon them.

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